

Wildlife Movements and Tracking Systems

Bibliography

**THE GEORGE WASHINGTON UNIVERSITY
Medical Center
Department of Medical and Public Affairs
Biological Sciences Communication Project
Washington, D.C.**

A Bibliography of Wildlife Movements
and Tracking Systems

by

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INTRODUCTION

The present bibliography consists of 1,005 references concerned with animal orientation, homing, navigation, migration, and home range movements, and the various methods of tracking and monitoring such behavior through biotelemetry, radar, and various banding and tagging techniques. A majority of the publications appeared between 1950 and 1970, although the most intensive search was made of the 1965-1970 period. A small number of older articles and books were included because they appeared to have some special or unusual value.

The references have been organized in two ways. First, they are grouped in primary categories on the basis of the behavior involved such as orientation, homing, etc., and the methods of tracking it. Second, within each of the resulting major areas, the items are arranged in terms of the species of animal. This sequence is maintained throughout the bibliography and in many cases represents a rank order according to the number of publications found.

In order to facilitate the assignment of references to the major groups, however, it was necessary to establish working definitions of many of the terms used. Thus, orientation refers to some type of directional behavior in which an animal selects a specific compass setting to follow prior to homing or migration. Some authors make a distinction between directional orientation as a general concept and goal orientation, the latter meaning a direction an animal must take after displacement in order to reach a goal or homesite. Homing involves a return to a loft, nest, or home range over either familiar or unfamiliar terrain ranging from very short distances to thousands of miles. The ability of an animal to set and hold a specific course during its movements by utilizing celestial and/or terrestrial cues constitutes a problem of navigation. Theoretically, the mechanism postulated for such behavior may involve sun navigation, star navigation, inertial navigation, a concept of "map and compass," or a sun compass. Migration is generally regarded as a cyclic movement, although it may be non-cyclical, usually consisting of a series of annual or periodic round trips between a breeding site and a home area. It is sometimes described as an "external homeostasis" having certain evolutionary and genetic benefits.

Several publications in the bibliography are considered exceptionally useful in that they provide comprehensive and detailed reviews of certain areas of research and their theoretical implications and, in addition, most have fairly extensive bibliographies. They are as follows:

Dorst, J. The Migration of Birds. Boston: Houghton Mifflin, 1962.

Eastwood, E. Radar Ornithology. London: Methuen, 1967.

Matthews, G.V.T. Bird Navigation. Cambridge, England: Cambridge Univ. Press, 1968.

Norris, K.S. (Ed.) Whales, Dolphins, and Porpoises. Berkeley: Univ. California Press, 1966.

Schmidt-Koenig, K. Current problems in bird orientation. Adv Stud Behav, 1965, 1, 217-278.

Slater, L.E. (Ed.) Bio-Telemetry. New York: Macmillan, 1963.

Storm, R.M. (Ed.) Animal Orientation and Navigation. Corvallis, Ore.: Oregon State Univ. Press, 1967.

I. ORIENTATION

A. General References

- Griffin, D.R. Sensory physiology and the orientation of animals. Amer Sci, 1953, 41(2), 209-244.
- Ising, G. Die physikalische möglichkeit eines tierischen Orientierungssinnes auf basis der erdrotation. Ark Mat Astr Fys, 1946, 32A(4), No. 18, 1-23.
- Mittelstaedt, H. The two-component theory of orientation. Ergebn Biol, 1963, 26, 253-258.
- Mittelstaedt, H. Basic control patterns of orientational homeostasis. Symp Soc Exp Biol, 1964, 18, 365-385.
- Naumov, N.P., and V.D. Ll'ichev. Some comments on the problem of orientation. Bionics, April 20, 1966, 481-483.
- Neuweiller, G., and F.P. Mohres. The role of spatial memory in orientation. Cours d'Ete OTAN sur les systemes sonars animaux: Biologie et bionique, 1966.
- Palmer, J.D. Geomagnetism and animal orientation (behavior). Natur Hist, 1967, 76(9), 54-57.
- Pardi, L. Astronomical orientation of animals: results and current problems. Boli Zool, 1957, 24(2), 473-523.
- Stieve, H. Sense physiological considerations on the orientation of sea animals in their migrations. Helogolander Wiss Meeresuntersuchungen, 1961, 8(1), 153-166.
- Verwey, J. Orientation in migrating marine animals and a comparison with that of other migrants. Arch neerl Zool, 1958, 13(Suppl. 1), 418-445.
- Wojtusiak, R.J. Hypothesis of sensibility to infra-red rays as an attempt to explain some problems of orientation of animals. C R Mens Classe Sci Math Nat Acad Polon Sci Lett, 1946, pp. 28-29.

B. Birds

- Anonymous. Orientation in migratory birds. Presse Med, 1963, 71(29), 1498-1499.
- Becker, H. Further experiments concerning the orientation behavior of Larus ridibundus L. and of pigeons following removal to distant places. Z Wiss Zool, 1968, 178(1/2), 186-234.

- Bellrose, F.C. Celestial orientation by wild mallards. Bird-Banding, 1958a, 24, 75-90.
- Bellrose, F.C. The orientation of displaced waterfowl in migration. Wilson Bull, 1958b, 70, 20-40.
- Bellrose, F.C. Orientation behavior of four species of waterfowl. Auk, 1963, 80, 257-289.
- Bellrose, F.C. Orientation in waterfowl migration [ducks]. In: Animal Orientation and Navigation, ed. by R.M. Storm. Corvallis, Oreg.: Oregon State University Press, 1967, pp. 73-99.
- Boudoint, Y. On the orientation ability of homing pigeons and Ising's theory. Alauda, 1947, 15(2), 244-247.
- Dijkgraaf, S. Orientation problem with birds. Proc K Ned Akad Wetesch, 1946, 49(6), 690-698.
- Diesselhorst, G. Experiments on distance orientation in birds. Naturwiss Rundsch, 1949, 3, 117-121.
- Dol'nik, V.R., and V.A. Payevskiy. On the limits of the capacity of small birds for orientation. Bionics, April 20, 1966, 462-471.
- Drury, W.H. Orientation of gannets. Bird-Banding, 1959, 30, 118-119.
- Emlen, S.T. Migratory orientation in the indigo bunting, Passerina cyanea: I. Evidence for use of celestial cues. Auk, 1967a, 84(3), 309-342.
- Emlen, S.T. Migratory orientation in the indigo bunting, Passerina cyanea: II. Mechanism of celestial orientation. Auk, 1967b, 84(4), 463-489.
- Emlen, S.T. Orientation of Zugunruhe in the rose-breasted grosbeak, Pheucticus lucovicianus. Condor, 1967c, 69(2), 203-205.
- Emlen S.T., and J.T. Emlen. A technique for recording migratory orientation of captive birds. Auk, 1966, 83(3), 361-367.
- Evans, P.R. Reorientation of passerine night migrants after displacement by the wind. Brit Birds, 1968, 61(7), 281-301.
- Fromme, H.G. Investigations of the capacity for orientation in nocturnally migrating small birds. Tierpsychol, 1961, 18(2), 205-220.
- Goldsmith, T.H., and D.R. Griffin. Initial flight directions in homing birds. Biol Bull, 1955, 108, 264-276; 1956, 111, 235-239.
- Gorzo, G. An explanation of the capacity of orientation of birds. Tiscia, 1965, 1, 109-110.

- Graue, L.C. Experience effect on initial orientation in pigeon homing. Anim Behav, 1965a, 13, 149-153.
- Graue, L.C. Initial orientation in pigeon homing related to magnetic contours. Amer Zool, 1965b, 5, 704.
- Griffin, D.R., and T.H. Goldsmith. Initial flight direction of homing birds. Biol Bull, 1955, 108, 264-276.
- Gualtierotti, T. Effect of acceleration on cerebellar potentials in birds and its relation to sense of direction. Amer J Physiol, 1959, 197(2), 469-474.
- Hamilton, W.J. Celestial orientation in juvenile waterfowl. Condor, 1962b, 64, 19-33.
- Hamilton, W.J. III. Social aspects of bird orientation mechanism [migration]. In: Animal Orientation and Navigation, ed. by R.M. Storm. Corvallis, Oreg.: Oregon State University Press, 1967, pp. 57-71.
- Hoffmann, K. Repetition of an experiment on bird orientation. Nature, 1958, 181, 1435-1437.
- Hoffman, K. The direction orientation of starlings under the midnight sun. Z Vergl Physiol, 1959a, 41(5), 471-480.
- Hoffmann, K. Experimental manipulation of the orientational clock in birds. Cold Spr Harb Symp Quant Biol, 1960, 25, 379-387.
- Keeton, W.T. Orientation by pigeons: is the sun necessary? Science, 1969, 165(3896), 922-928.
- Kimm, I.H. Orientation of cockchafer. Nature, 1960, 188, 69-70.
- King, J.M.B. Orientation of migrants over sea in fog. Brit Birds, 1959, 52, 125-126.
- Kramer, G. Neue Beitrage zur Frage der Fernorientierung der Vogel. Orn Ber, 1948, I, 228-239.
- Kramer, G. Oriented passage activity of caged singing birds. Naturwissenschaften, 1950, 37(8), 188.
- Kramer, G. Eine neue Methode zur Erforschung der Zugorientierung und die bisher damit erzielten Ergebnisse. Proc X Int Orn Cong Uppsala, 1951a, 271-280.
- Kramer, G. Experiments on bird orientation. Ibis, 1952a, 94, 265-285.

- Kramer, G. The sun orientation of birds. Verhandlung des deutschen Zoologische Gesellschaft in Freiburg, 1952b, 72-84.
- Kramer, G. Die Sonnenorientierung der Vogel. Verh dtsch Zool Ges Freiburg, 1952b, 72-84.
- Kramer, G. Wird die Sonnenhöhe bei der Heimfindeorientierung verwertet? J Orn, 1953c, 94, 201-219.
- Kramer, G. A further study of the influence of annual changes in sun angle orientation of homing pigeons. J Orn, 1955b, 96(2), 173-185.
- Kramer, G. Experiments on bird orientation and their interpretation. Ibis, 1957, 99, 196-227.
- Kramer, G. Recent experiments on bird orientation. Ibis, 1959a, 101, 408.
- Kramer, G. Review of bird orientation in homing. Ibis, 1959b, 101, 399-416.
- Kramer, G. Long-distance orientation. In: Biology and Comparative Physiology of Birds, ed. by A.J. Marshall. London, 1961, pp. 341-371.
- Kramer, G., J.G. Pratt, and U.v. St Paul. Directional differences in pigeon homing. Science, 1956, 123(3191), 329-330.
- Kramer, G., J.G. Pratt, and U.v. St Paul. Two direction experiments with homing pigeons and their bearing on the problem of goal orientation. Amer Natur, 1957, 91(856), 37-48.
- Kramer, G., J.G. Pratt, and U.v. St Paul. Neue untersuchungen über den "Richtungseffekt". J Orn, 1958, 99, 178-191.
- Kramer, G., and E. Riese. Die Dressur von Brieftauben und Kompassrichtung im Wahlkaffig. Z Tierpsychol, 1952, 9, 245-251.
- Kramer, G., and U.v. St. Paul. Direction training: a significant factor in the orientation of the homing pigeon. Z Tierpsychol, 1950a, 7, 620-631.
- Kramer, G., and U.v. St Paul. Starlings (Sturnus vulgaris L.) orient themselves by sky light. Naturwissenschaften, 1950b, 37(22), 526-527.
- Kumari, E.V. Present state of research on bird orientation. Ref Zhur Biol, 1963....
- Matthews, G.V.T. The relation of learning and memory to the orientation and homing of pigeons. Behaviour, 1952b, 4, 202-221.
- Matthews, G.V.T. The orientation of untrained pigeons: a dichotomy in the homing process. J Exp Biol, 1953b, 30, 268-276.

- Matthews, G.V.T. "Nonsense" orientation in mallard Anas platyrhynchos and its relation to experiments on bird navigation. Ibis, 1961, 103(2), 211-230.
- Matthews, G.V.T. Tests of the possible social significance of 'nonsense' orientation. Wildfowl Trust Ann Rep, 1962, 13, 47-52.
- Matthews, G.V.T. A review of orientation studies and their relevance to the problems of bird navigation. 16th Int Cong of Zool, 1963a.
- Matthews, G.V.T. 'Nonsense' orientation as a population variant. Ibis, 1963b, 105, 185-197.
- Matthews, G.V.T. The astronomical bases of "nonsense" orientation. Proc Int Orn Congr, 1963c, 13, 415-429.
- Matthews, G.V.T. The orientation of pigeons as affected by the learning of landmarks and by the distance of displacement. In: Readings in Animal Behavior, ed. by T.E. McGill. New York: Holt, Rinehart and Winston, 1965a, pp. 380-390.
- Matthews, G.V.T. Some parameters of 'nonsense' orientation in mallard. Wildfowl Trust Ann Rep, 1967, 18, 88-97.
- Matthews, G.V.T., J.A. Eygenraam, and L. Hoffmann. Initial direction tendencies in the European greenwinged teal. Wildfowl Trust Ann Rep, 1963, 14, 120-123.
- Mattingley, A.H.E. Orientation in birds. Ibis, 1946, 88, 512-517.
- Merkel, F.W. Migration orientation of birds: a still unsolved question. Umsch Wiss Tech, 1968, 68(5), 141-145.
- Merkel, F.W., and H.G. Fromme. Untersuchungen uber das Orientierungsuermogen nachtllich ziehender Rotkehlchen Erithacus Rubecula. Naturwissenschaften, 1958, 45, 499.
- Merkel, F.W., H.G. Fromme, and W. Wiltshko. Nonvisual orientation capability during nightly migration restlessness in the European robin. Vogelwarte, 1964, 22(3/4), 168-176.
- Mewaldt, L.R., M.L. Morton, and I.L. Brown. Orientation of migratory restlessness in Zonotrichia. Condor, 1964, 66, 377-417.
- Mewaldt, L.R., and R.G. Rose. Orientation of migratory restlessness in the white-crowned sparrow. Science, 1960, 131, 105-106.
- Meyer, M.E. Stimulus control for bird orientation.. Psychol Bull, 1964b, 62, 165-179.

- Moreau, G., and J.-C. Pouvet. Tentative evidence of the influence of electromagnetic waves on the orientation sense of carrier pigeons. Alauda Rev Int Orn, 1968, 36(4), 217-225.
- Myres, M.T. Dawn ascent and reorientation of Scandinavian thrushes (Turdus spp.) migrating at night over the northeastern Atlantic ocean in autumn. Ibis, 1964, 106(1), 7-51.
- Owen, R.B. Jr. Premigratory behavior and orientation in blue-winged teal (Anas discors). Auk, 1968, 85(4), 617-632.
- Penney, R.L. Adelie penguin orientation. Antarctic J U S, 1967, 2(4), 107.
- Penney, R.L., and J.T. Emlen. Sun orientation by the Adelie penguin (Pygoscelis adeliae). Proc Internatl Congr Zool, 1963b, 16(2), 20.
- Perdeck, A. Several experiments on the orientation of birds. Arch Neer Zool, 1950, 11(4), 532.
- Perdeck, A.C. Two types of orientation in migrating starlings Sturnus vulgaris L. and chaffinches Fringilla coelebs L., as revealed by displacement experiments. Ardea, 1958, 46, 1-37.
- Perdeck, A.C. Orientatievermogen van Kokmeeuwen. Limosa, 1967a, 40, 158-160.
- Perdeck, A.C. Orientation of starlings after displacement to Spain. Ardea, 1967b, 55, 194-202.
- Pratt, J.G. Research on animal orientation with emphasis on the phenomena of homing in pigeons. Duke University, 1955b. (AD 53687.)
- Pratt, J.G. Research on animal orientation with emphasis on the phenomenon of homing in pigeons. Contract Nonr-1181 (03), Duke University. (AD 286 808.)
- Pratt, J.G., and R.H. Thouless. Homing orientation in pigeons in relation to opportunity to observe the sun before release. J Exp Biol, 1955, 32, 140-157.
- Rabol, J. Orientation of autumn migrating garden warblers (Sylvia borin) after displacement from Western Denmark (Blavand) to Eastern Sweden (Ottenby): a preliminary experiment. Dansk Orn Foren Tidsskr, 1969, 63(2), 93-104.
- Rawson, K.S. Sun compass orientation and endogenous activity rhythms of the starling (Sturnus vulgaris L.). Z Tierpsychol, 1954, 11, 446-452.

- Rawson, K.S., and A.M. Rawson. The orientation of homing pigeons in relation to change in sun declination. J Orn, 1955, 96, 168-172.
- Sauer, E.G.F. Die sternorientierung nachtllich ziehender grasmucken Sylvia atricapilla, Borin and Curruca. Z Tierpsychol, 1957, 14, 29-70.
- Sauer, E.G.F. Further studies on the stellar orientation of nocturnally migrating birds. Psychol Forsch, 1961, 26(3), 224-244.
- Sauer, E.G.F. Geographical imprinting and day-and-night orientation of the transoceanic wandering Pacific golden plover (Pluvialis dominica fulva). Ergebnisse Biol, 1963, 26, 281-285.
- Sauer, E.G.F., and E.M. Sauer. Zur frage der nachtlichen Zugorientierung von grasmuckhen. Rev Suisse de Zool, 1955, 62, 250-259.
- Sauer, E.G.F., and E.M. Sauer. Nachtliche Zugorientierung europaischen Vogel in sudweat Afrika. Vogelwarte, 1959, 20, 4-31.
- Sauer, E.G.F., and E.M. Sauer. Orientation of nocturnal bird migrants by the stars. Proc Int Orn Congr, 1960a, 12, 645-648.
- Schmidt-Koenig, K. The sun azimuth compass: one factor in the orientation of homing pigeons. Science, 1960b, 137(3403), 826-828.
- Schmidt-Koenig, K. Die Sonnenorientierung richtungdressierter Tauben in ihrer physiologischen Nacht. Naturwissenschaften, 1961a, 48, 110.
- Schmidt-Koenig, K. Neuere aspekte uber die Orientierungsleistungen von Brieftauben. Ergebn Biol, 1963b, 26, 286-297.
- Schmidt-Koenig, K. Sun compass orientation of pigeons upon displacement north of the arctic circle. Biol Bull, 1963d, 127, 154-158.
- Schmidt-Koenig, K. Sun compass orientation of pigeons upon equatorial and trans-equatorial displacement. Biol Bull, 1963e, 124, 311-321.
- Schmidt-Koenig, K. Initial orientation and distance of displacement in pigeon homing. Nature, 1964a, 201, 638.
- Schmidt-Koenig, K. On the orientation of birds; experiments and problems. Naturwissenschaften, 1964b, 51(18), 423-431.
- Schmidt-Koenig, K. Sun compass orientation of pigeons upon displacement north of the Arctic Circle. Biol Bull, 1964c, 127, 154-158.
- Schmidt-Koenig, K. Current problems in bird orientation. In: Advances in the Study of Behaviour, ed. by E. Hinde, K. Lehrman, and E. Shaw. New York, pp. 217-278.

- Schmidt-Koenig, K. Über den zeitlichen Ablauf der Angangsorientierung bei Brieftauben (Kurzfassurs). Verh dtsch Zool Ges, 1964, 409-411.
- Schmidt-Koenig, K. Distance as a parameter in the initial orientation of homing pigeons. Z Vergl Physiol, 1966, 52, 33-55.
- Schmidt-Koenig, K. Distance and accuracy of initial orientation in homing pigeons. Z Vergl Physiol, 1968, 58(3), 344-346.
- Schwartz, P. Orientation experiments with northern water thrushes wintering in Venezuela. Proc Int Orn Congr, 1963, 13, 481-484.
- Smogorzhevskii, L.A. Initial flight direction in homing experiments. Vestn Zool, 1967, 3, 55-59. [Engl. sum.]
- Southern, W.F. Orientation behavior of ring-billed gull chicks and fledglings. Condor, 1969, 71(4), 418-425.
- Spaepen, J., and P. Dachy. Le probleme de l'orientation chez les oiseaux migrateurs. II. Experiences preliminaires effectuees sur des Martinets noirs, Apus apus L. Gerfaut, 1952, 42, 54-59.
- Spaepen, J., and P. Dachy. Het Oriëntatieprobleem bij de Trekvogels. III. Verdere homingproeven met Gierzwaluwen (Apus apus L.). Gerfaut, 1953, 43, 327-332.
- St Paul, U.v. Nachweis der Sonnenorientierung bei nachtllich ziehenden Vogeln. Behaviour, 1953, 6, 1-7.
- St Paul, U.v. Compass directional training of western meadowlarks (Sturnella neglecta). Auk, 1956, 73, 203-210.
- St Paul, U.v. Neue experimentelle Ergebnisse uber Fernorientierung der Tiere. Vogelwarte, 1958, 19, 193-198.
- Thorpe, W.H. Recent biological evidence for the methods of bird orientation. Proc Linn Soc Lond, 1949, 160, 85-94.
- Thorpe, W.H., and D.H. Wilkinson. Ising's theory of bird orientation. Nature, 1946, 158, 903.
- Thorpe, W.H. Recent biological evidence for the methods of bird orientation. Proc Linn Soc Lond, 1949, 160, 85-94.
- Verwey, J. Over het Oriënteringsvermogen van Vogels en Zeedieren. Ardea, 1953, 41, 271-290.
- Wallraff, H.G. Initial orientation by homing pigeons under cloudy skies. J Orn, 1966a, 107(3/4), 326-336.

- Wallraff, H.G., and N. Kleber. Eine dressurmethode fur Wahrnehmungphysiologische Untersuchungen und ihr Anwendung in Orientierungsversuchen mit Vogeln. Experientia, 1967, 23, 312-314.
- Wilkinson, D.H. Some physical principles of bird orientation. Proc Linn Soc Lond, 1949, 160, 94-99.
- Wiltshko, W., and F.W. Merkel. Orientierung zugunruhiger Rotkehlchen im statischen Magnetfeld. Verh dtsh Zool Jena, 1966, 362-367.
- Wodzicki, K., W. Puchalski, and H. Liche. Untersuchungen uber die Orientation und Geschwindigkeit des Fluges bei Vogeln. III. Untersuchungen am Storchen (Ciconia c. ciconia). Acta Orn Mus Zool Pol, 1938, 2, 239-258.
- Wodzicki, K., W. Puchalski, and H. Liche. Untersuchungen uber die Orientation und Geschwindigkeit des Fluges bei Vogeln. V. Weitere Versuche an Storchen. J Orn, 1939, 87, 99-114.
- Wodzicki, K., and R.J. Wojtusiak. Untersuchungen uber die Orientation und Geschwindigkeit des Fluges bei Vogeln. I. Experimente an Schwalben (H. rustica L.). Acta Orn Mus Zool Pol, 1934, 1, 253-274.
- Wojtusiak, R.J. Polish investigations on homing birds and their orientation in space. Proc Linn Soc Lond, 1949, 160, 99-108.
- Wojtusiak, R.J. Orientation in birds. Przeglady Zool, 1960, 4, 254-271. [Engl. sum.]
- Wojtusiak, R.H., and B. Ferens. Untersuchungen uber die Orientation und Geschwindigkeit des Fluges bei Vogeln. IV. Heimkehrgeschwindigkeit und Orientierungart bei den Rauchschnalben (H. rustica L.). Bull Acad Pol Sci, 1938, 2, 173-201.
- Wojtusiak, R.J., and B. Ferens. Homing experiments on birds. VIII. Observations on the nest, age and orientation in space of chimney swallows. (Hirundo rustica L.) Bull Int Acad Pol Sci, Ser. B. II., 1946b, (1/10), 165-167.
- Wojtusiak, R.J., and B. Ferens. Homing experiments on birds. VII. Further investigations on the velocity of swallows (Hirundo rustica L.) and on the role of memory in their orientation in space. Bull Int Acad Pol, 1947, 2, 135-164.
- Wojtusiak, R.J., K. Wodzicki, and B. Ferens. Untersuchungen uber die Orientation und Geschwindigkeit des Fluges bei Vogeln. II. Weitere Versuche an Schnalben: Beeinflussung durch Nachtzeit und Gebirge. Acta Orn Mus Zool Pol, 1937, 2, 39-61.

Yakobi, V.E. The orientation of birds in flight. Flight Mechanisms and the Orientation of Birds. Moscow: Nauka, 1966a, pp. 146-168.

Zeigler, H.P., and S. Schmerler. Visual discrimination of orientation by pigeons. Anim Behav, 1965, 13(4), 475-477.

C. Bats

Kulzer, E. Production of orientation sounds by the dog-faced bat through movements of the tongue. Naturwissenschaften, 1956, 43(5), 117-118.

Layne, J.N. Evidence for the use of vision in diurnal orientation of the bat Myotis austroriparius. Anim Behav, 1967, 15, 409-415.

Mohres, F.P., and G. Neuweiler. The ultrasonic orientation in the bats (Chiroptera-Megadermatidae). Z Vergl Physiol, 1966, 53(3), 195-227.

Novick, A. Orientation in paleotropical bats. I. Microchiroptera. J Exp Zool, 1958a, 138, 81-153.

Novick, A. Orientation in paleotropical bats. II. Megachiroptera. J Exp Zool, 1958b, 137, 443-461.

Williams, T.C., J.M. Williams, and D.R. Griffin. Visual orientation in homing bats. Science, 1966b, 152, 677.

D. Fish

Bardach, J.E., J.H. Todd, and R. Crickmer. Orientation by taste in fish of the genus Ictalurus. Science, 1967, 155(3767), 1276-1278.

Braemer, W., and H.O. Schwassmann. The rhythms of sun orientation at the equator (by fish). Ergebnisse Biol, 1963, 26, 182-201.

Collins, G.B., P.S. Trefethen, and A.B. Groves. Orientation of homing salmon. Amer Zool, 1962, 2(3), 399-400.

Groot, C. On the orientation of young sockeye salmon (Oncorhynchus nerks) during their seaward migration out of lakes. E J Brill Suppl Behav, 1965, 14.

Hasler, A.D. Homing orientation in migrating fishes. Ergebn Biol, 1960, 23, 94-115.

Hasler, A.D., and H.O. Schwassmann. Sun orientation of fish at different latitudes. Cold Spring Harbour Symp, 1960, 25, 429-441.

Hasler, A.D., and H.O. Schwassman. Sun orientation of fish at different latitudes. Cold Spring Harbor Symp Quant Biol, 1960, 25, 429-441.

Hasler, A., and K.H. Shvassman. Orientation of fishes toward the sun in different latitudes. In: Biologischeskie chasy, 1964.

Healey, M.C. Orientation of pink salmon (Oncorhynchus gorbuscha) during early marine migration from Bella Coola River system. J Fish Res, Bd Can, 1967, 24(11), 2321-2338.

Kleerekoper, H. Some aspects of olfaction in fishes, with special reference to orientation. Amer J Zool, 1967, 7(3), 385-395.

McInerney, J.E. Salinity preference: an orientation mechanism in salmon migration. J Fish Res Bd Can, 1964, 21(5), 995-1018.

Pavlov, D.C. Attitude of the fish young to the water stream, and orientation in this latter. Zool Zh, 1966, 45(6), 891-896.

Saila, S.B., and R.A. Shappy. Random movement and orientation in salmon migration. J Conseil Internat p L'Exploration de la Mer, 1963, 28, 154-166, 440-443.

Schwassmann, H.O. Environmental cues in the orientation rhythm of fish. Cold Spring Harb Symp, 1960, 25, 443-450.

Schwassmann, H.O. Experiments on sun orientation in some freshwater fish. Ph.D. Thesis, 1962, University of Wisconsin.

Schwassmann, H.O., and W. Braemer. The effect of experimentally changed photoperiod on the sun-orientation rhythm of fish. Physiol Zool, 1961, 34, 273-286.

Schwassmann, H.O., and A.D. Hasler. The role of the sun's altitude in sun orientation of fish. Physiol Zool, 37, 163-178.

Weaver, C.R. Influence of water velocity upon orientation and performance of adult migrating salmonids. U S Fish Wildl Serv Fish Bull, 1963, 63(1), 97-122.

E. Amphibians and Reptiles

Birukow, G., K. Fischer, and H. Bottcher. The sun compass orientation of lizards. Ergebnisse Biol, 1963, 26, 216-234.

Caldwell, M.C., and D.K. Caldwell. Factors in the ability of the north-eastern Pacific green turtle to orient toward the sea from the land, a possible coordinate in long-range navigation. Los Angeles County Mus Contr Sci, 1962, 60, 1-27.

- Carr, A. Orientation problems in the high seas travel and terrestrial movements of marine turtles. Amer Sci, 1962, 50(3), 359-374.
- Ehrenfeld, D.W. The role of vision in the sea-finding orientation of the green turtle (Chelonia mydas). 2. Orientation mechanism and range of spectral sensitivity. Anim Behav, 1968, 16(2/3), 281-287.
- Ehrenfeld, D.W., and A. Carr. The role of vision in the sea-finding orientation of the green turtle (Chelonia mydas). Anim Behav, 1967, 15, 25-36.
- Ferguson, D.E. Orientation in three species of anuran amphibians. Ergebn Biol, 1963, 26, 128-134.
- Ferguson, D.E. Sun-compass orientation in anurans. In: Animal Orientation and Navigation, ed by R.M. Storm. Corvallis, Oreg.: Oregon State University Press, 1967, pp. 21-34.
- Ferguson, D.E., and H.F. Landreth. Celestial orientation of Fowler's toads Bufo fowleri. Behaviour, 1966, 26(1/2), 105-123.
- Ferguson, D.E., H.F. Landreth, and J.P. McKeown. Sun-compass orientation of the northern cricket frog, Acris crepitans. Anim Behav, 1967, 15(1), 45-53.
- Ferguson, D.E., H.F. Landreth, and M.R. Turnipseed. Astronomical orientation of the southern cricket frog, Scris gryllus. Copeia, 1965, 58-66.
- Ferguson, D.E., J.P. McKeown, O.S. Bosarge, and H.F. Landreth. Sun-compass orientation of bullfrog. Copeia, 1968, 2, 230-235.
- Fischer, K. Spontane Richtungsfinden nach dem Sonnenstand bei Chelonia mydas L. (Suppenschildkrote). Naturwissenschaften, 1964, 5, 203.
- Fischer, K., and G. Birukow. The light compass orientation of emerald lizards, which grew up without sun (Lacerta viridis Laur). Verhandlungen der Deutschen Zoologischen Gesellschaft, Wien, 11-15, June, 1962.
- Gould, E. Orientation in box turtles, Terrapene C. carolina (Linnaeus). Biol Bull, 1957, 112, 336-348.
- Gould, E. Studies on the orientation of turtles. Copeia, 1959, 174-176.
- Grant, D., O. Anderson, and V. Twitty. Homing orientation by olfaction in newts (Taricha rivularis). Science, 1968, 160(3834), 1354-1355.
- Landreth, H.F., and D.E. Ferguson. Evidence of sun-compass orientation in the chorus frog, Pseudacris triseriata. Herpetologica, 1966, 22(2), 106-112.

- Landreth, H.F., and D.E. Ferguson. Movements and orientation of the tailed frog, Ascaphus truei. Herpetologica, 1967a, 23(2), 81-93.
- Landreth, H.F., and D.E. Ferguson. Newt (Taricha granulosa) orientation by sun-compass. Nature, 1967b, 215(5100), 516-518.
- Landreth, H.F., and D.E. Ferguson. Newts: sun-compass orientation. Science, 1967c, 158(3807), 1459-1461.
- Shoop, C.R. Migratory orientation of Ambystoma maculatum: movements near breeding ponds and displacements of migrating individuals. Biol Bull Woods Hole, 1968, 135(1), 230-238.
- Shoop, C.R. Orientation of Ambystoma maculatum: movements to and from breeding ponds. Science, 1965, 149, 558-559.
- Taylor, D. Sea turtles provide clues to understanding animal orientation. Duquesne Sci Counselor, 1962, 25(4), 102-105.
- Tracy, C.R., and J.W. Dole. Evidence of celestial orientation by California toads (Bufo boreas) during breeding migration. Bull S Calif Acad Sci, 1969a, 68(1), 10-18.
- Tracy, C.R., and J.W. Dole. Orientation of displaced California toads, Bufo boreas, to their breeding sites. Copeia, 1969b, (4), 693-700.
- Twitty, V.C., D. Grant, and O. Anderson. Amphibian orientation: an unexpected observation. Science, 1967a, 155, 352-353.
- Twitty, V., D. Grant, and O. Anderson. Initial homeward orientation after long-distance displacements in the newt, Taricha rivularis. Proc Nat Acad Sci US Amer, 1967b, 57(2), 342-348.

F. Terrestrial Mammals

- Fisler, G.F. An experimental analysis of orientation to the home site in two rodent species. Can J Zool, 1967, 45(3), 261-268.
- Grunwald, A. Investigation on orientation in white-tooth-shrews (Soricidae: Crocidurinae). Z Vergl Physiol, 1969, 65(2), 191-217.

G. Crustaceans

- Debenedetti, E.T. Orientational response of some amphipods under artificial light. Boll Ist Mus Zool Univ Torino, 1962, 6, 1-8.

Enright, J.T. Lunar orientation of Orchestoidae corniculata. Biol Bull, 1961, 120, 148-156.

Pardi, L., and A. Ercolini. Research on the astronomic orientation of littoral amphipods of the equatorial zone. III. Solar orientation of Talorchestia martensii Weber south of the equator. Monit Zool Ital, 1966, 74(Suppl.), 80-101. [Engl. sum.]

H. Insects

Frisch, K. von. Die Sone als Kompass im Leben der Bienen. Experientia, 1950, 4, 142-148.

Tongiorgi, P. Effects of the reversal of the rhythm of nycthemeral illumination on astronomical orientation and diurnal activity in Arctosa variana C.L. Koch (Araneae-Lycosidae). Arch ital Biol, 1959, 97, 251-265.

II. Homing

A. Birds

Adler, H.E., and B.P. Adler. Computer simulation of pigeon homing. Abstracts XIV Int Orn Cong Oxford, 1966, 25.

Arnould-Taylor, W.E., and A.M. Malewski. The factor of topographical cues in bird homing experiments. Ecology, 1955, 36, 641-646.

Billings, S.M. Homing in Leach's petrel. Auk, 1968, 85, 36-43.

Bochenski, Z., M. Dylewska, J. Gieszczykiewicz, and L. Sych. Homing experiments on birds. XI. Experiments with swallows Hirundo rustica L. concerning the influence of earth magnetism and partial eclipse of the sun on their orientation. Zesz Nauk W J Zoologica, 1960, 5, 125-130. [Engl. sum.]

Brown, C.E. Homing pigeons exposed to radio frequency waves. Sci Amer, 1939, 160, 45.

Clark, C.W. Night-flying homers of the signal corps. An experiment that resulted in a new race of homing pigeons. Nat Hist, 1933, 33, 409-418.

Goldsmith, T.H., and D.R. Griffin. Further observations of homing terns. Biol Bull, 1956, 111, 235-239.

- Gordon, D.A. Sensitivity of the homing pigeon to the magnetic field of the earth. Science, 1948, 108, 710-711.
- Graue, L.C. The effect of phase shifts in the day-night cycle on pigeon homing at distances of less than one mile. Ohio J Sci, 1963, 63, 214-217.
- Graue, L.C., and J.G. Pratt. Directional differences in pigeon homing in Sacramento, California and Cedar Rapids, Iowa. Anim Behav, 1959, 7, 201-208.
- Griffin, D.R. Homing experiments with Leach's petrels. Auk, 1940a, 57, 61-74.
- Griffin, D.R. Homing experiments with herring gulls and common terns. Bird-Banding, 1943, 14, 7-33.
- Griffin, D.R. Airplane observations of homing pigeons. Bull Mus Comp Anat, 1952, 107, 411-440.
- Griffin, D.R., and R.J. Hock. Airplane observations of homing birds. Ecology, 1949, 30, 176-198.
- Grundlach, R.H. A field study of homing pigeons. J Comp Psychol, 1932, 13, 397-402.
- Hitchcock, H.B. Airplane observations of homing pigeons. Proc Amer Phil Soc, 1952, 96, 270-289.
- Hoffmann, K. Über den einfluss verschiedener faktoren auf die Heimkehrleistung von Brieftauben. J Orn, 1959b, 100, 90-102.
- Kenyon, K.W., and D.W. Rice. Homing of Laysan albatrosses. Condor, 1956, 60(1), 3-6.
- Kramer, G. Danebenfliegen und Überfliegen beim Heimflug von Brieftauben. Vogelwarte, 1953a, 16, 146-148.
- Kramer, G. Einfluss von Temperatur und Erfahrung auf das Heimfindevermögen von Brieftauben. J Orn, 1954, 95, 343-347.
- Kramer, G. Influence of temperature and experience in the homing capabilities of homing pigeons. J Orn, 1955a, 95, 343-347.
- Kramer, G., and U.v. St. Paul. Homing performance of carrier pigeons without direction training. Verhandl Deut Zool Ges, 1952, 1951, 172-178.
- Kramer, G., and U.v. St. Paul. Das Heimkehrvermögen gekafigter Brieftauben. Orn Beob, 1954, 51, 3-12.

- Kramer, G., and U.v. St. Paul. Weitere Erfahrungen über den 'Wintereffekt' beim Heimfindevermögen von Brieftauben. J Orn, 1956a, 97, 353-370.
- Kramer, G., and U.v. St. Paul. Über das Heimfinden von Kaffigtauben über Kurzstrecken. J Orn, 1956b, 97, 371-376.
- Kramer, G., U.v. St. Paul, and H.G. Wallraff. Über die Heimfindeleistung von unter Sichtbegrenzung aufgewachsenen Brieftauben. Verh dtsh Zool Ges Frankfurt, 1958, 168-176.
- Kramer, G., and H. Seilkopf. Heimkehrleistungen von Reisetrauben in Abhängigkeit vom Wetter, insbesondere vom Wind. Vogelwarte, 1950, 15, 242-247.
- Kratzig, H., and E. Schuz. Ergebnis der Versetzung ostbaltischer Stare ins Binneland. Vogelzug, 1936, 7, 163-175.
- Lack, D., and R.M. Lockley. Skokholm Bird Observatory homing experiments. I. 1936-37. Puffins, storm petrels and manx shearwaters. Brit Birds, 1938, 31, 242-248.
- Manwell, R.D. Homing instinct of the red-winged blackbird. Auk, 1941, 58, 185-187.
- Manwell, R.D. The homing of cowbirds. Auk, 1962, 79, 649-654.
- Matthews, G.V.T. An investigation of homing ability in two species of gulls. Ibis, 1952a, 94, 243-264.
- Mayhew, W.W. Homing of bank swallows and cliff swallows. Bird-Banding, 1963, 34, 179-190.
- Mazzeo, R. Homing of the manx shearwater. Auk, 1953, 70, 200-201.
- McCabe, R.A. The homing of transplanted young wood ducks. Wilson Bull, 1947, 59, 104-109.
- McIlhenny, E.A. An early experiment in the homing ability of wildfowl. Bird-Banding, 1940, II, 58.
- Mewaldt, L.R. Californian 'crowned' sparrows return from Louisiana. Western Bird Bander, 1963, 38, 1-4.
- Mewaldt, L.R. California sparrows return from displacement to Maryland. Science, 1964, 146, 941-942.
- Mewaldt, L.R., and D.S. Farner. Translocated golden-crowned sparrows return to winter range. Condor, 1957, 59, 268-269.

- Montgomery, K.C., and E.G. Heinemann. Concerning the ability of homing pigeons to discriminate patterns of polarized light. Science, 116(3017), 454-456.
- Nicol, J.A.C. The homing ability of the carrier pigeon: its value in warfare. Auk, 1945, 62, 286-298.
- Odum, E.P. Winter homing behavior of the chickadee. Bird-Banding, 1941, 12, 113-119.
- Orgel, A.R., and J.C. Smith. Test of the magnetic theory of homing. Science, 1954, 120, 891-892.
- Orloff, A.P., B.G. Novikov, and A.A. Woitkewitsch. Effect of castration on the homing faculty of the carrier pigeon. C R Acad Sci USSR, 27, 406-408.
- Papi, F., and L. Pardi. Are pigeons able to home when released over the sea? Monit Zool Ital, 1968b, 2(3/4), 217-231.
- Platt, C.S., and R.S. Dare. The homing instinct in pigeons. Science, 1945, 101, 439-440.
- Pratt, J.G. The homing problem in pigeons. J Parapsychol, 1953, 17, 34-60.
- Pratt, J.G. An investigation of homing ability in pigeons without previous homing experience. J Exp Biol, 1955a, 32, 70-83.
- Pratt, J.G. Testing for an ESP factor in pigeon homing. Ciba Found Symp on Extrasensory Perception, 1956, London, pp. 165-179.
- Pratt, J.G. Testing for an ESP factor in pigeon homing: requirements, attempts, and difficulties. In: Extrasensory Perception. New York: The Citadel Press, 1965, pp. 165-186.
- Riper, W.v., and E.R. Kalmbach. Homing not hindered by wing magnets. Science, 1952, 115, 577-578.
- Roadcap, R. Translocations of white-crowned and golden-crowned sparrows. Western Bird Bander, 1962, 37, 55-57.
- Rossa, D.M. Homing ability experiments with small land birds. Iowa Bird Life, 1964, 34(1), 15-18.
- Sargent, T.D. A study of homing in the bank swallow (Riparia riparia). Auk, 1962, 79, 234-246.
- Schmidt-Koenig, K. Internal clocks and homing. Cold Spr Harb Symp Quant Biol, 1960a, 25, 389-393.

- Schmidt-Koenig, K. The sun as compass in the homing system of homing pigeons. Z Tierpsychol, 1961c, 18(2), 221-244.
- Schmidt-Koenig, K. Hormones and homing in pigeons. Physiol Zool, 1963a, 36, 264-272.
- Schmidt-Koenig, K. On the role of the loft, the distance and site of release in pigeon homing in the "cross-loft" experiment. Biol Bull, 1963c, 125(3), 154-164.
- Southern, W.E. Homing of purple martins. Wilson Bull, 1959, 71, 254-261.
- Stoner, D. Homing instinct of the bank swallow. Bird-Banding, 1941, 12, 104-109.
- Stranger, R.H. A study of homing performance in the Senegal dove. West Aust Natur, 1968, 11(1), 4-14.
- Treat, A.E. The homing of pigeons following decompression to an indicated altitude of 25,000 feet. Biol Rev Coll City NY, 1947, 9, 30-34.
- Vaught, R.W. Results of transplanting flightless young blue-winged teal. J Wildlife Manag, 1964, 28, 208-212.
- Verwey, J. Über das Heimfinden von Vögeln aus unbekannter Gegend. Vogelwarte, 1959, 20, 1-4.
- Vilks, Y.K. Results of homing experiments with variegated flycatchers. Bionics, April 20, 1966, 459-461.
- Walcott, C., and M. Michener. Analysis of tracks of single homing pigeons. Proc Int Orn Congr, 1967, 14, 311-329.
- Wallraff, H.G. Locally and temporally determined variability of homing in homing pigeons. Z Tierpsychol, 1959, 16(5), 513-544.
- Wallraff, H.G. Über zusammenhänge des Heimkehrverhaltens von Brieftauben mit meteorologischen und geophysikalischen faktoren. Z Tierpsychol, 1960c, 17, 82-113.
- Wallraff, H.G. The homing ability of carrier pigeons with bisected semi-circular canals. Z Vergl Physiol, 1965, 50(3), 313-330.
- Wallraff, H.G. The homing performances of homing pigeons after placing in various interrupted aviaries. Z Vergl Physiol, 1966b, 52(3), 215-259.
- Wallraff, H.G. The present status of our knowledge about pigeon homing. In: Proc XIV Int Orn Congr, 24-30 July, 1966c.

Whitney, L.F. Landmarks and homing. Amer Racing Pigeon News, 1963, 79, 8-10.

Wodzicki, K., W. Puchalski, and H. Liche. Experiments on homing in birds. Nature, 1938a, 141, 35-36.

Wojtusiak, R.J., and B. Ferens. Homing experiments on birds. VI. Investigations on tree and house sparrows (Passer arboreus Bewick and Passer domesticus L.). Bull Int Acad Pol Sci, Ser. B. II, 1946a, (1/10), 99-106.

Wojtusiak, R.J., B. Ferens, Z. Schiffer, M. Dylewska, and Z. Majlert. Homing experiments on birds. IX. Further investigations on tree-sparrows, Passer montanus (L.). Acta Orn Mus Zool Pol, 1953, 4, 311-334.

Wojtusiak, R.J., H. Wojtusiak, and B. Ferens. Homing experiments on birds. VI. Investigations on the tree and house sparrows (Passer arboreus Berwick and P. domesticus L.). Bull Int Acad Pol, 1947, 2, 99-106.

Wolhuter, B.R. Apparent homing in the red-tailed hawk. Bird-Banding, 1968, 39(1), 61.

B. Bats

Barbour, R.W., W.H. Davis, and M.D. Hassell. The need of vision in homing by Myotis sodalis. J Mammal, 1966, 47, 356-357.

Cockrum, E.L. Homing, movements, and longevity of bats. J Mammal, 1956, 37(1), 48-57.

Cope, J.B., and S.R. Humphrey. Homing experiments with the evening bat, Nycticeius humeralis. J Mammal, 1967, 48(1), 136.

Cope, J.B., K. Koontz, and E. Churchwell. Notes on homing of two species of bats, Myotis lucifugus and Eptesicus fuscus. Science, 1960, 70, 270-274.

Davis, R. Homing performance and homing ability in bats. Ecol Monogr, 1966, 36(3), 203-237.

Davis, R., and E.L. Cockrum. Repeated homing exhibited by a female pallid bat. Science, 1962, 137(3527), 341-342.

Davis, R., and E.L. Cockrum. "Malfunction" of homing ability in bats. J Mammal, 1963, 44(1), 131-132.

- Davis, W.H., and J.W. Hardin. Homing in Lasionycteris noctivagans. J Mammal, 1967, 48(2), 323.
- Gyles, G. Homing instinct in bats. Zoologist, 1883, 7, 173.
- Hall, J.S., and W.H. Davis. A record of homing in the big brown bat. J Mammal, 1958, 39(2), 292.
- Hassell, M.D. A study of homing in the Indiana bat, Myotis sodalis. Trans Kent Acad Sci, 1963, 24(1/2), 1-4.
- Hassell, M.D., and M.J. Harvey. Differential homing in Myotis sodalis. Amer Midl Nat, 1965, 74(2), 501-503.
- Hitchcock, H.B., and K. Reynolds. Homing experiments with the little brown bat, Myotis lucifugus lucifugus (Le Conte). J Mammal, 1942, 23(3), 258-267.
- Homing ability strong in some Trinidad bats. Science News, 1966, 89, 331.
- Kowalski, D., and R.J. Wojtusiak. Homing experiments in bats. I. Bull Int Acad Pol Sci Lett Ser B 2 Zool, 1951, (1/3), 33-56.
- Mueller, H.C., and J.T. Emlen, Jr. Homing in bats. Science, 1957, 126(3286), 307-308.
- Reynolds, K. Notes on homing and hibernation in Eptesicus fuscus. Can Field-Nat, 1941, 55, 132.
- Schramm, P. A new homing record for the little brown bat. J Mammal, 1957, 38(4), 514-515.
- Smith, E., and W. Goodpaster. Homing in non-migratory bats. Science, 1958, 127(3299), 644.
- Smith, E., and K. Hale. A homing record in the bat, Myotis lucifugus lucifugus. J Mammal, 1953, 34(1), 122.
- Tibbetts, T. Homing instincts of two bats, Eptesicus fuscus and Tadarida mexicana (mammalia: Chiroptera). Southwestern Natur, 1956, 1(4), 194.
- Williams, T.C., J.M. Williams, and D.R. Griffin. The homing ability of the neotropical bat Phyllostomus hastatus, with evidence for visual orientation. Anim Behav, 1966a, 14(4), 468-473.

C. Fish

- Day, D.E. Population stratification and homing behavior in juvenile coho salmon (Oncorhynchus kisutch). Fish Res Pap, 1967, 2(4), 75-79.
- Deelder, C.L., and F.W. Tesch. Homing abilities of eels (Anguilla anguilla), which had been transplanted over long distances. Marine Biol, 1970, 6(1), 81.
- Donaldson, R., and G.H. Allen. Return of silver salmon, Oncorhynchus kis (Walbaum) to point of release. Trans Amer Fish, 1957, 87, 13-22.
- Gunning, G.E. The concepts of home range and homing in stream fishes. With a discussion of sensory implication. Ergebnisse Biol, 1963, 26, 202-215.
- Hartman, W.L., and R.F. Raleigh. Tributary homing of sockeye salmon at Brooks and Kariuk Lakes, Alaska. J Fish Res Bd Can, 1964, 21(3), 485-504.
- Hasler, A.D. Underwater Guideposts: Homing of Salmon. Wisconsin: Univ. of Wisconsin Press, 1966.
- Horrall, R.M. A comparative study of two spawning populations of the white bass, Roccus chrysops (Rafinesque), in Lake Mendota, Wisconsin, with special reference to homing behavior. Ph.D. Thesis, 1961, University of Wisconsin.
- Jahn, L.A. Open-water movements of the cutthroat trout (Salmon clarki) in Yellowstone Lake after displacement from spawning streams. Fish Res Bd Can J, 1966, 23(10), 1475-1485.
- Jahn, L.A. Movements and homing of cutthroat trout (Salmon clarki) from open-water areas of Yellowstone Lake. J Fish Res Bd Can, 1969, 26(5), 1243-1261.
- Kudrna, J.J. Movement and homing of sunfishes in Clear Lake. Proc Iowa Acad Sci, 1967, 72, 263-271.
- Olson, D.E., and W.J. Scidmore. Homing behavior of spawning walleyes. Trans Amer Fish Soc, 1962, 91(4), 355-361.
- Tesch, F.W. Homing of eels (Anguilla anguilla) in the southern North Sea. Mar Biol, 1967, 1(1), 2-9.

D. Amphibians and Reptiles

- Barthalmus, G.T., and E.D. Bellis. Homing in the northern dusky salamander, Desmognathus fuscus fuscus. Copeia, 1969, 1969(1), 148-152.

Bogert, C.M. A field study of homing in the Caroline toad (Bufo t. terrestris). Amer Mus Novitates, 1947, 1355, 1-24.

Brattstrom, B.H. Homing in the giant toad, Bufo marinus. Herpetologica, 1962, 18, 176-180.

Dole, J.W. Homing in leopard frogs, Rana pipiens. Ecology, 1968, 49(3), 386-399.

Durham, L., and C.W. Bennett. Age, growth, and homing in the bullfrog. J Wildl Manag, 1963, 27, 107-123.

Jameson, D.L. Population structure and homing in the Pacific treefrog. Copeia, 1959, 1957, 221-228.

Jordan, H.D. Homing toads. Niger Field, 1954, 19, 189.

Madison, D.M. Homing behavior of the red-cheeked salamander, Plethodon jordani. Anim Behav, 1969, 17(1), 25-39.

Nichols, J.T. Range and homing of individual box turtles. Copeia, 1939, 3, 125-127.

Rose, F.L. Homing to nests by the salamander Desmognathus auriculatus. Copeia, 1966, 1966(2), 251-253.

Twitty, V.C. Experiments on homing behavior and speciation in Taricha. In: Vertebrate Speciation, ed. by W.F. Blair. Austin: University of Texas Press, 1961, pp. 415-459.

Twitty, V.C., D. Grant, and O. Anderson. Long distance homing in the newt Taricha rivularis. Proc Nat Acad Sci, 1964, 51, 51-58.

Twitty, V., D. Grant, and O. Anderson. Course and timing of the homing migration in the newt Taricha rivularis. Proc Nat Acad Sci US Amer, 1966, 56(3), 864-871.

E. Terrestrial Mammals

Bovet, J. Trails of deer mice (Peromyscus maniculatus) traveling on the snow while homing. J Mammal, 1968, 49(4), 713-725.

Hill, E.P. III. Homing [behavior] by a cottontail rabbit [Sylvilagus floridanus]. J Mammal, 1967, 48(4), 648.

Morris, R.D. A note on the homing behavior of Peromyscus maniculatus osgoodi. Can Field Natur, 1967, 81(3), 225-226.

F. Molluscs

Beckett, T.W. An investigation into some aspects of limpet movements, especially the homing behavior. Tane, 1968, 14, 43-63.

Cook, A., O.S. Bamford, J.D.B. Freeman, and D.J. Teideman. A study of the homing habit of the limpet. Anim Behav, 1969, 17(2), 330-339.

Jesse, W.F. Studies of homing behavior in the limpet Acmaea scabra (Gould, 1846). Veliger, 1968, 11(Suppl.), 52-55.

Thorne, M.J. Studies on homing in the chiton Acanthozostera gemmata. Aust J Mar Freshwater Res, 1968, 18(2), 151-160.

III. Navigation

A. General References

Adler, H.E. Psychophysical limits of celestial navigation hypotheses. Ergebn Biol, 1963a, 235-252.

Barlow, J.S. Inertial navigation as a basis for animal navigation. J Theor Biol, 1964, 6, 76-117.

Cade, C.M. Navigation - man's debt to the animals. Discovery, 1963, 24(2), 22-27.

Carthy, J.D. Animal Navigation. New York: Charles Scribner's Sons, 1956.

Edelstam, C.G. Long range navigation in animals. University of Stockholm, June 10, 1965. (AD-623 338.)

Lockley, R.M. Animal Navigation. New York: Hart Publishing Company, Inc., 1967.

Milne, L.J., and M. Milne. Scientists believe animals navigate by the sun and stars. Audubon, 1962, 64(1), 26-30.

Wallraff, H.G. Does celestial navigation exist in animals? Cold Spr Harb Symp Quant Biol, 1960a, 25, 451-461.

Wen, S., W. Peng, and Y. Hang. Guided aerial navigation in the animal kingdom. Hang K'ung Chin Shih, 1964, No. 4, 10-13. (AD-626952.)

3. Birds

- Agron, S.L. Evolution of bird navigation and the earth's axial precession. Evolution, 1962, 16(4), 524-527.
- Barnothy, J.M. Proposed mechanisms for the navigation of migrating birds. In: Biological Effects of Magnetic Fields, ed. by M.F. Barnothy. New York: Plenum Press, 1964, pp. 287-293.
- Beecher, W.J. A possible navigation sense in the ear of birds. Amer Midl Natur, 1951, 46, 367-384.
- Beecher, W.J. On coriolis force and bird navigation. Sci Mon, 1954, 79, 27-31.
- Braemer, W. A critical review of the sun-azimuth hypothesis. Cold Spring Harbour Symp, 1960, 25, 413-427.
- Dobben, W.H. van. Bird migration in the Netherlands. Ibis, 1953, 95, 212-234.
- Dolnik, V.R., and M.E. Shumakov. Testing the navigational abilities of birds. Bionica, 1967, 500-507.
- Emlen, J.T., and R.L. Penney. Distance navigation in the Adelie penguin. Ibis, 1964, 106, 417-431.
- Emlen, J.T., and R.L. Penney. Distance navigation in the Adelie penguin. Ibis, 1964, 106(4), 417-431.
- Emlen, J.T., and R.L. Penney. The navigation of penguins. Sci Amer, 1966, 215(4), 104-113.
- Griffin, D.R. The sensory basis of bird navigation. Quart Rev Biol, 1944, 19, 15-31.
- Griffin, D.R. Bird navigation. Biol Rev, 1952b, 27, 359-400.
- Griffin, D.R. Bird navigation. In: Recent Studies in Avian Biology, ed. by A. Wolfson. Urbana, Illinois: University of Illinois Press, 1955.
- Hamilton, W.J. Does the bobolink navigate? Wilson Bull, Dec. 31, 1962c. (AD-611 342.)
- Hamilton, W.J. Analysis of bird navigation experiments. In: Systems Analysis in Ecology, ed. by K.E.F. Watt. New York: Academic Press, 1966, pp. 147-178.

- Henderson, G.H., Physical basis of bird navigation. Science, 1948, 107(2788), 597-598.
- Matthews, G.V.T. Bird navigation. New Nat, 1948, I, 146-155.
- Matthews, G.V.T. The experimental investigation of navigation in homing pigeons. J Exp Biol, 1951, 28, 508-536.
- Matthews, G.V.T. Sun navigation in homing pigeons. J Exp Biol, 1953a, 30, 243-267.
- Matthews, G.V.T. Navigation in the manx shearwater. J Exp Biol, 1953c, 30, 370-396.
- Matthews, G.V.T. An investigation of the 'chronometer' factor in bird navigation. J Exp Biol, 1955, 32, 39-58.
- Matthews, G.V.T. Individual experience as a factor in the navigation of manx shearwaters. Auk, 1964, 81, 132-146.
- Matthews, G.V.T. The sensory nature of bird navigation. In: Extrasensory Perception. New York: Citadel Press, 1965b.
- Matthews, G.V.T. Bird Navigation. Cambridge, England: Cambridge University Press, 1968.
- Meyer, M.E. Discriminative basis for astronavigation in birds. J Comp Physiol Psychol, 1964a, 58, 403-406.
- Meyer, M.E. The internal clock hypothesis for astronavigation in homing pigeons. Psychon Sci, 1966, 5, 259-260.
- Mikhel'son, Kh., and Ya A. Viksn. Navigational capabilities of migratory birds. Bionics, April 20, 1966, pp. 452-458. (N66-24126-13-04.)
- Odum, H.T. The bird navigation controversy. Auk, 1948, 65(4), 584-597.
- Penney, R.L., and J.T. Emlen. Further experiments on distance navigation in the Adelie Penguin Pygoscelis adelia. Ibis, 1967, 109(1), 99-109.
- Pennycuick, C.J. Sun navigation by birds. Nature, 1960a, 188, 1128.
- Pennycuick, C.J. The physical basis of astronavigation in birds; theoretical considerations. J Exp Biol, 1960b, 37(3), 573-593.
- Pennycuick, C.J. Sun navigation in birds? Nature, 1961, 190, 1026.
- Perdeck, A.C. Does navigation without visual clues exist in robins? Ardea, 1963, 51, 91-104.

- Potapov, R.L. The navigational capabilities of certain sparrows. Dokl Akad Nauk SSSR, 1966, 171(1), 226-228.
- Pumphrey, R.J. Sun navigation by birds. Nature, 1960, 188, 1127.
- Sauer, E.G.F., and E.M. Sauer. Star navigation of nocturnal migrating birds. The 1958 planetarium experiments. Cold Spr Harb Symp Quant Biol, 1960b, 25, 463-473.
- Sauer, E.G.F., and E.M. Sauer. Star navigation of nocturnal migrating birds. Cold Spr Harb Symp Quant Biol, 1961, 29, 463-473.
- Sauer, E.G.F., and E.M. Sauer. Richtungsfinden und Raumbeherrschung von Zugvögeln nach Gestirnen. Nach d Obers-gessellschaft Bremen, 1962, 50, 12-16.
- Saville, D.B.O. Bird navigation in homing and in migration. Science, 1948, 107(2788), 596-597.
- Schmidt-Koenig, K. Sun navigation in birds? Nature, 1961b, 190(4780), 1025-1026.
- Schumacher, W.C. A preliminary study of a physical basis of bird navigation. J Appl Phys, 1949, 20, 123.
- Slepian, J. Physical basis of bird navigation. J Appl Phys, 1948, 19, 306.
- Southern, W.E. Avian navigation. Bioscience, 1965, 15(2), 87-88.
- Stewart, O.J.A. A bird's inborn navigational device. Trans Ky Acad Sci, 1957, 18, 78-84.
- Talkington, L. Bird navigation and geomagnetism. Amer Zool, 1967, 7, 199.
- Tunmore, B.G. A contribution to the theory of bird navigation. Proc Int Orn Congr, 1960, 12, 718-723.
- Varian, R.H. Remarks on 'A preliminary study of a physical basis of bird navigation'. J Appl Phys, 1948, 19, 306-307.
- Wallraff, H.G. Konnen Grasmücken mit Hilfe des Sternenhimmels navigieren. Z Tierpsychol, 1960b, 17, 165-177.
- Wilkinson, D.H. The random element in bird navigation. J Exp Biol, 1952, 29, 532-560.

Yakobi, V.E. The probability mechanism of acquiring navigational skills in birds during migration. Bionics, April 20, 1966b, pp. 444-451. (N66-24126 13-04).

Yeagley, H.L. A preliminary study of a physical basis of bird navigation. J Appl Physics, 1947, 18, 1035-1063.

Yeagley, H.L. A preliminary study of a physical basis of bird navigation. J Appl Physics, 1951, 22, 746-760.

Yeagley, H.L. Bird navigation. Pennsylvania State University, 1961. (AD-267-244.)

C. Bats

Test, F.H. Indicated use of sight in navigation by molossid bats. J Mammal, 1967, 48(3), 482-483.

D. Fish

Cruetzberg, F. The role of tidal streams in the navigation of migrating elvers (Anguilla vulgaris Turt.). In: Animal Orientation. 1962.

E. Amphibians and Reptiles

Koch, A.L. The problem of open-sea navigation: the migration of the green turtle to Ascension Island. J Theor Biol, 1969, 22(1), 163-179.

F. Marine Mammals

Dudok van Heel, W.H. Navigation in cetacea. In: Whales, Dolphins, and Porpoises, ed. by K.S. Morris. University of California Press, 1966, pp. 597-606.

G. Insects

Kalmus, H. Sun navigation of Apis mellifica L. in the southern hemisphere. J. Exp Biol, 1956, 33, 554-565.

IV. Migration

A. General References

- Adler, H.E. Sensory factors in migration. Anim Behav, 1963b, 11(4), 566-577.
- Rowan, W. On photoperiodism, reproductive periodicity, and the annual migrations of birds and certain fishes. Proc Boston Soc Nat Hist, 1926, 38, 147-189.

B. Birds

- Aldrich, J.W., et al. Migration of some North American waterfowl. US Fish and Wildlife Service, Special Scientific Report (Wildlife), 1949, No. 1, 1-48.
- Alexander, W.B., and R.S.R. Fitter. American land birds in western Europe. Brit Birds, 1955, 48, 1-14.
- Allen, W.H. Bird migration and magnetic meridians. Science, 1948, 108, 708.
- Amadon, D. Migratory birds of relict distribution: some inferences. Auk, 1953, 70, 461-469.
- Arellano, M., and P.M. Rojas. Avés Acuáticas Migratorias en Mexico. Mexico: Inst. Mex. Recursos Naturales Renovables, 1956.
- Austin, O.L., Sr. The migration of the common tern (*Sterna hirundo*) in the western hemisphere. Bird-Banding, 1953, 24, 39-55.
- Bagg, A.M. Do "spring waves" ride "lows"? Bull Mass Aud Soc, 1947, 31(7), 279-280.
- Bagg, A.M., W.W.H. Gunn, D.S. Miller, J.T. Nichols, W. Smith, and F.P. Wolfarth. Barometric pressure-patterns and spring bird migration. Wilson Bull, 1950, 62, 5-19.
- Ball, S.C. Fall bird migration on the Gaspé Peninsula. Peabody Mus Nat Hist Yale Univ Bull, 1952, 7, 1-211.
- Barnes, J.A.G. The migrations of the lesser black-backed gull. Brit Birds, 1953, 46, 238-252.
- Bateson, P.P.G., and I.C.T. Nisbet. Autumn migration in Greece. Ibis, 1961, 103a, 503-516.

- Bellrose, F.C., and J.G. Sieh. Massed waterfowl flights in the Mississippi flyway, 1956 and 1957. Wilson Bull, 1960, 72, 29-59.
- Bergman, G., and K.O. Donner. An analysis of the spring migration in southern Finland. Acta Zool Fenn, 1964, 105, 1-59.
- Bernis, F. La migracion de las ciguenas espanolas y de las otras ciguenas 'occidentales'. Ardeola, 1959, 5, 9-80.
- Bernis, F. About wintering and migration of the common crane (Grus grus) in Spain. Proc 12th Int Orn Cong (Helsinki, 1958), 1960, pp. 110-117.
- Bernis, F. Migracion en Aves. Madrid, 1966.
- Blanchard, B.D. Migration in Pacific coast white-crowned sparrows. Auk, 1942, 59, 47-63.
- Bogert, C.M. Birds collected during the Whitney south sea expedition. XXXIV. The distribution and the migration of the long-tailed cuckoo (Urodynamis tahitensis Sparrman). Amer Mus Novitates, 1937, 1-12.
- Brackbill, H. Unstable migratory behavior in a mockingbird. Bird-Banding, 1956, 27, 128.
- Broekhuysen, G.J. Occurrence and movement of migratory species in Rhodesia and southern Africa during the period 1950-53. Ostrich, 1955, 26, 99-114, and 1956, 27, 159-167.
- Bullis, H.R., Jr. Trans-gulf migration, spring 1952. Auk, 1954, 71, 298-305.
- Cochran, W.W., and R.R. Graber. Attraction of nocturnal migrants by lights on a television tower. Wilson Bull, 1958, 70, 378-380.
- Cooch, G. Observations on the autumn migration of blue geese. Wilson Bull, 1955, 67, 171-174.
- Cooke, M.T. The kittiwake as a transatlantic bird. Bird-Banding, 1945, 16, 58-62.
- Cornwallis, R.K. Autumn migration on the east coast of Britain in relation to weather. Ardea, 1956, 44, 224-231.
- Cornwallis, R.K. The pattern of migration in 1955 at the east coast bird observatories. Brit Birds, 1957, 50, 105-118.
- Curry-Lindahl, K. Internal timer and spring migration in an equatorial migrant. The yellow wagtail (Motacilla flava). Arkiv Zool, 1958, 11(33), 541-557.

- Davis, T.A.W. Notes on northern migrants observed inland in British Guiana. Ibis, 1954, 96, 441-448.
- Deelder, C.L. On the autumn migration of the Scandinavian chaffinch (Fringilla c. coelebs L.). Ardea, 1949, 37, 1-88.
- Deelder, C.L. Some historical data on the relation between wind direction and migration of chaffinches (Fringilla coelebs L.). Ardea, 1952, 40, 63-66.
- Delacour, J. Les oiseaux migrants de l'Indochine française. J Orn Festschr Hartert, 1929, 71-82.
- Delvingt, W., and J. Leclercq. The sense of direction in migratory birds. Endeavour, 1963, 22(85), 27-30.
- Dementiev, G.P. Les migrations transatlantiques de la Mouette tridactyle Rissa tridactyla tridactyla L. Oiseau Rev Fr Orn, 1946, 16, 37-41.
- Devlin, J.M. Effects of weather on nocturnal migration as seen from one observation point at Philadelphia. Wilson Bull, 1954, 66, 93-101.
- Dol'nik, V.R. Physiological principles of bird migrations. (Biological significance and functional determination of mammalian migration behavior.) Ref Zh Biol, 1966, no. 11335.
- Dorst, J. The Migrations of Birds. Boston: Houghton Mifflin Company, 1962.
- Douaud, J. Les migrations au Togo (Afrique occidentale). Alauda, 1957, 25, 241-266.
- Dusi, J.L. Migration in the little blue heron (Florida caerulea). Wilson Bull, 1967, 79(2), 223-235.
- Elgood, J.H. Bird migration at Ibadan, Nigeria. Ostrich, 1959, Suppl. 3, 306-316.
- Eliasson, E. The water-loss of wind-drifted migratory birds. Abst Papers 12th Int Orn Cong (Helsinki, 1958), 1958, 7.
- Engels, W.L. Migratory restlessness in caged bobolinks (Dolichonyx oryzivorus), a transequatorial migrant. Biol Bull, 1962, 123(3), 542-554.
- Engels, W., M. Esser, and H. Rahmann. The lure of the lights of big towns for nocturnally migrating cranes (Grus grus). Vogelwarte, 1964, 22(3/4), 177-178.
- Fell, H.B. The migration of the New Zealand bronze cuckoo Chalcites lucidus lucidus (Gmelin). Trans Roy Soc NZ, 1947, 76, 504-515.

- Fog, M. The migration of geese through Denmark. Dansk Ornithol Forenings Tidsskr, 1965, 58(4), 147-165.
- Gavrin, V.F. Seasonal migrations of birds in the Bieloviez forest and its surroundings. Trudy 2. Pribalt Orn Konf, 1957, pp. 108-130.
- Glover, B. Movements of birds in South Australia. S Austr Orn, 1952, 20, 82-91.
- Goodbody, I.M. Autumn migration on the Kintyre peninsula. Brit Birds, 1956, 49, 417-431.
- Goodwin, D. Notes on the migration of birds of prey over Suez. Ibis, 1949, 91, 59-63.
- Griffin, D.R. Bird Migration. Garden City, New York: Natural History Press, 1964.
- Gruys-Casimir, E.M. On the influence of environmental factors on the autumn migration of chaffinch and starling: a field study. Arch neerl Zool, 1965, 16, 175-279.
- Gunn, W., W. Hamilton, and A.M. Crocker. Analysis of unusual bird migration in North America during the storm of April, 4-7, 1947. Auk, 1951, 68, 139-163.
- Hamilton, W.J. Bobolink migratory pathways and their experimental analysis under night skies. Auk, 1962a, 79, 208-233.
- Hamilton, W.J., and M.C. Hammond. Oriented overland spring migration of pinioned Canada geese. Wilson Bull, 1960, 72, 385-391.
- Harrison, J.G. The effect of wind on diurnal spring migrants crossing the mouth of the Elbe. Bull Brit Orn Cl, 1954, 74, 14-21.
- Harrisson, T. Regularity of migrant dates in central Borneo. Ibis, 1960, 102, 472.
- Hawksley, O. Transatlantic Arctic tern recoveries. Bird-Banding, 1949, 20, 185-186.
- Hemmingsen, A.M. Observations on the migration of the eastern white stork (Ciconia ciconia boyciana Swinhoe). Proc 10th Int Orn Congr (Uppsala, 1950), 1951a, pp. 351-353.
- Hemmingsen, A.M. Observations on birds in north-eastern China, especially the migration at Pei-tai-ho Beach. I. General part. Spolia Zool Mus Hauniensis Skrifter Univ Zool Mus Kopenhagen, 1951b, 11, 1-227.

- Hobbs, J.N. Migratory movements of the swamp harrier. Emu, 1959, 59, 87-88.
- Hochbaum, H.A. Travels and Traditions of Waterfowl. Minneapolis: Univ. of Minnesota Press, 1955.
- Holgersen, H. Migration of the Norwegian murre Uria aage (Pont.). Sterna [Stavanger Mus.], 1961, 4(6), 229-240. [Engl. sum.]
- Iygi, A.L. Migration of waterfowl and the weather. In: Ecology and Migration of Birds of the Baltic Regions. Riga: Akad. Nauk Latvisk SSR, 1961, pp. 267-271.
- Keast, A. Seasonal movements and geographic variation in the Australian wood-swallows (Artamidae). Emu, 1958, 58, 207-218.
- Kessel, B. Distribution and migration of the European starling in North America. Condor, 1953, 55, 49-67.
- King, J.R., and D.S. Farner. Studies of fat deposition in migratory birds. Ann NY Acad Sci, 1965, 131(1), 422-440.
- Kramer, G. Uber Fluge von Brieftauben uber See. Natur u Jagd in Niedersachsen, 1956, 113-117.
- Kumari, E.V. On the theory of flyways and migrations along wide front. Trudy 2. Pribalt Orn Konf (Acad. Sci. USSR), 1957, pp. 4-26. (In Russian.)
- Kumari, E.V. Visible migration in the east Baltic area. Ibis, 1958, 100, 503-514.
- Kumari, E.V. Some problems of physiological investigations in the study of bird migration behavior. In: Biological Significance and Functional Determination of Mammalian Migration Behavior. Moscow-Leningrad: Nauka, 1965, pp. 4-11.
- Kuroda, N. A brief note on the pelagic migration of the Tubinares. Misc Reports Yamashina's Inst Orn Zool, 1957, No. 11, 436-449.
- Lack, D. The problem of partial migration. Brit Birds, 1943, 37, 122-130; and 1944, 37, 143-150.
- Lack, D. The return and departure of swifts, Apus apus (L.), at Oxford. Ibis, 1958a, 100, 477-502.
- Lack, D. Migration across the sea. Ibis, 1959c, 101, 374-399.

- Lack, D. A comparison of 'drift migration' at Fair Isle, the Isle of May and Spurn Point. Scot Birds, 1960a, 1, 295-327.
- Lack, D. Autumn 'drift migration' on the English east coast. Brit Birds, 1960b, 53, 325-352, 379-397.
- Lack, D. The height of bird migration. Brit Birds, 1960d, 53, 5-10.
- Lack, D. The influence of weather on passerine migration. A review. Auk, 1960e, 77(2), 171-209.
- Lack, D. Weather factors initiating migration. Proc Int Orn Congr, 1963b, 13, 413-414.
-
- Lack, D., and E. Lack. Visible migration through the Pyrenees: an autumn reconnaissance. Ibis, 1953, 95, 271-309.
- Lack, D., and J.L.F. Parslow. Falls of night migrants on the east coast in autumn 1960 and 1961. Bird Migration, 1962, 2, 187-200.
- Landsberg, H. Bird migration and pressure patterns. Science, 1948, 108, 708-709.
- Lawrence, R.G. Relationships of certain climatological factors to the autumn migration of waterfowl in the central flyway. Diss Abst, 1965, 26(3), 1838-1839.
- Lincoln, F.C. Migration of birds. US Dept Interior Fish and Wildlife Serv Circ, 1950, No. 16.
- Lincoln, F.C. Migration of Birds. New York: Doubleday, 1952.
- Liversidge, R. The place of South Africa in the distribution and migration of ocean birds. Ostrich, 1959, Suppl. 3 (Proc 1st Pan Afr Orn Congr), pp. 47-67.
- Loetscher, F.W., Jr. North American migrants in the state of Veracruz, Mexico: a summary. Auk, 1955, 72, 14-54.
- Lowery, G.H. A quantitative study of the nocturnal migration of birds. Univ Kan Mus Nat Hist, 1951, 3, 361-472.
- Lowery, G.H., and R.J. Newman. A continent-wide view of bird migration on four nights in October. Auk, 1966, 83, 547-586.
- Macclure, H.E., and M. Yoshii. The arrival of continental migrants in western Japan. Auk, 1957, 74, 359-370.
- Macgill, A.R. Migrating honeyeaters. Emu, 1947, 47, 56-57.

- Mackintosh, D.R. The use of thermal currents by birds on migration. Ibis, 1949, 91, 55-59.
- Marshall, A.J. Breeding seasons and migrations. In: Biology and Comparative Physiology of Birds, Vol. 2. New York and London: 1961, pp. 307-339.
- Mayaud, N. Migration de Turdus viscivorus (L.) et particularites de sa reproduction. Alauda, 1952, 20, 31-38.
- Mayaud, N. Sur les migrations et l'hivernage de Larus melanocephalus Temminck. Alauda, 1954, 22, 225-245.
- Mayaud, N. Etude sur la migration et les zones d'hivernage des Sternes caspiennes, Hydroprogne caspia (allas), d'Eurasie. Alauda, 1956, 24, 206-218.
- Mayaud, N. La migration 'en boucle' du Faucon kobez, Falco vespertinus (L.), en Afrique du Nord et Mediterranee. Alauda, 1957, 25, 24-29.
- Mayr, E. On the origin of bird migration in the Pacific. Proc 7th Pacif Sci Congr, 1957, 4, 387-394.
- Meier, A.H. A possible endocrine basis for migratory behavior in the white-crowned sparrow, Zonotrichia leucophrys Gambelii. Anim Behav, 1965, 13(4), 453-465.
- Mewaldt, L.R. Displacement of migratory birds. Grant Nonr (G)-00030-62 from San Jose State College, San Jose, California, October 1, 1961 - December 31, 1962 (AD 292-799.)
- Miller, A.H. Migratory flight of a Zonotrichia at 10,000 feet above ground level. Condor, 1957, 59, 209-210.
- Miskimen, M. Meteorological and social factors in autumnal migration of ducks. Condor, 1955, 57, 179-184.
- Misonne, X. La migration d'automne dans le Kurdistan oriental. Gerfaut, 1955, 45, 33-67.
- Moreau, R.E. The place of Africa in the palaearctic migration system. J Anim Ecol, 1952, 21, 250-271.
- Moreau, R.E. Migration in the Mediterranean area. Ibis, 1953, 95, 329-364.
- Moreau, R.E. The Iberian peninsula and migration. Bird Study, 1956, 3, 1-25.
- Moreau, R.E. Les problemes de la migration a travers le Maroc. Alauda, 1959, 27, 81-96.

- Moreau, R.E. Problems of Mediterranean-Saharan migration. Ibis, 1961, 103a, 373-427, and 580-623.
- Mueller, H.C., and D.D. Berger. Weather and fall migration of hawks at Cedar Grove, Wisconsin. Wilson Bull, 1961, 73(2), 171-192.
- Myrberget, S. How do migrating birds find their way? Sterna, 1959, 3(5), 193-214.
- Naik, D.V., and J.C. George. Cyclic (cytological) changes in the pituitary of the migratory starling, Sturnus roseus (Linnaeus). J Anim Morphol Physiol, 1965, 12(2), 171-188.
- Nice, M.M. Migratory behavior in song sparrows. Condor, 1933, 35(2), 9-24.
- Nisbet, I.C.T. Passerine migration in south Scandinavia in the autumn of 1954. Ibis, 1957, 99, 228-268.
- Noskov, G.A. Influence of some external factors on the migration routes of birds. Vestn Leningrad Univ Ser Biol, 1967, 22(2), 44-56.
- Odum, E.P. Lipid deposition in nocturnal migrant birds. Proc 12th Int Orn Cong (Helsinki, 1958), 1960, pp. 563-576.
- Olivares, A. Aves migratorias en Colombia. Rev Acad Colomb, 1959, 10(41), 371-442.
- Olsson, V. Dispersal, migration, longevity and death causes of Strix aluco, Buteo buteo, Ardea cinerea and Larus argentatus. Acta Vertebratica, 1958, 1(No. 2), 91-189.
- Panouse, J.B. Les migrations des cigognes marocaines. Bull Soc Sci Nat Maroc, 1949, 29, 217-227.
- Panouse, J.B. Sur les migrations des cigognes blanches d'Europe occidentale et du Maroc. CR Acad Sci, 1951, 232, 557-559.
- Parslow, J.L.F. Immigration of night-migrants into southern England in spring 1962. Bird Migration, 1962, 2, 160-176.
- Perdeck, A.C. An experiment on the ending of autumn migration in starlings. Ardea, 1964, 52, 133-139.
- Phillips, A.R. Migrations and distribution of terrestrial birds in Mexico. Rev Soc Mex Hist Nat, 1961, 22, 295-311.
- Preuss, N.O. The migration of the oyster catcher (Haematopus ostralegus L.) across the North Sea. Dansk Ornithol For Tidsskr, 1961, 55(3), 140-151.

- Rabol, J. Bird migration at Knudshoved, eastern Funen. Dansk Orn Forenings Tidsskr, 1964, 58(2), 49-97.
- Rabol, J. Visual diurnal migratory movements. Dansk Orn Foren Tidsskr, 1967, 61(2), 73-99.
- Raynor, G.S. Meteorological variables and the northward movement of nocturnal land bird migrants. Auk, 1956, 73(2), 153-175.
- Richardson, W.J. Weather and late spring migration of birds into southern Ontario. Wilson Bull, 1966, 78(4), 400-414.
- Robertson, J.S. Migrating shearwaters. Emu, 1957, 57, 191-197.
- Robertson, J.S. Yellow-faced honeyeater migration. Emu, 1958, 58, 370-374.
- Roux, F. Captures de migrants paléarctiques dans la Basse Vallée du Sénégal. Bull Mus Paris 2ème ser, 1959, 31, 334-340.
- Rougeot, P.C. Sur la migration du Fou du Cap, Morus capensis Falk (1823), le long des côtes du Gabon. Ostrich, 1959, Suppl 3, 331-332.
- Rowan, W. Experiments in bird migration. III. The effects of artificial light, castration and certain extracts on the autumn movement of the American crow (Corvus brachyrhynchos). Proc Nat Acad Sci, 1932, 18, 639-654.
- Rowan, W. Experiments in bird migration. Trans Roy Soc Can, 1946, 40, 123-135.
- Rudebeck, G. Studies on bird migration. Var Fagelv, 1950, Suppl 1, 1-148.
- Rudebeck, G. Some aspects of bird migration in the western palaearctic region. In: Bertil Hanström. Zoological Papers in Honor of his Sixty-fifth Birthday. Lund, pp. 257-268.
- Rydzewski, W. The nomadic movements and migrations of the European common heron, Ardea cinerea L. Ardea, 1956, 44, 71-188.
- Salomonsen, F. The evolutionary significance of bird migration. Dan Biol Medd, 1955, 22(no. 6), 1-62.
- Sauer, E.G.F. Migration habits of golden plovers. Proc Inst Orn Soc, 1963, 13, 454-467.
- Sauer, E.G.F. Golden plover migration, its evolution and orientation. Proc XVI Int Cong Zool, 1966, 4, 380-381.
- Saunders, A.A. Forty years of spring migration in southern Connecticut. Wilson Bull, 1959, 71, 209-219.

Scholander, S.I. Land birds over the western north Atlantic. Auk, 1955, 72, 225-239.

Serventy, D.L. Observations on migration in the Timor Sea in 1949. Emu, 1951, 51, 134.

Serventy, D.L. Movements of the Wilson storm-petrel in Australian seas. Emu, 1952, 52, 105-116.

Serventy, D.L. Movements of pelagic sea-birds in the Indo-Pacific region. Proc 7th Pacific Science Congr, 1953a, 4, 394-407.

Serventy, D.L. The southern invasion of northern birds during 1952. W Austr Nat, 1953b, 3(8), 177-196.

Sharland, M. The swamp harrier as a migrant. Emu, 1958, 58, 75-80.

Sibson, R.B. Some aspects of bird migration in New Zealand. Proc 10th Int Orn Congr (Uppsala, 1950), 1951, pp. 320-325.

Siebenaler, J.B. Notes on autumnal trans-gulf migration of birds. Condor, 1954, 56, 43-48.

Siebert, H.C. Differences between migrant and non-migrant birds in food and water intake at various temperatures and photoperiods. Auk, 1949, 66(2), 128-153.

Simmons, K.E.L. Fieldnotes on the behavior of some passerines migrating through Egypt. Ardea, 1954, 42, 140-151.

Simms, E. Bird migrants. Some aspects and observations. London: Cleaver-Hume Press, 1952.

Sprunt, A., Jr. Some observations on the fall migration at Dry Tortugas, Florida. Auk, 1951, 68, 218-226.

Stevens, O.A. Fall migration and weather with special reference to Harris' sparrow. Wilson Bull, 1957, 69, 39-77.

Stewart, R.E. Migratory movements of the northern clapper rail. Bird-Banding, 1954, 25, 1-5.

Storr, G.M. Migration routes of the Arctic tern. Emu, 1958, 58, 59-62.

Stromberg, G. Study of translunar migration over the province of Biekinge, southern Sweden. Var Fagelvarld, 1961, 20(1), 30-42.

Suffern, C. Pressure patterns in bird migration. Science, 1949, 109, 209.

- Svardson, G. Visible migration within Fenno-Scandinavia. Ibis, 1953, 95, 181-211.
- Svardson, G. The 'invasion' type of bird migration. Brit Birds, 1957, 50, 314-343.
- Taylor, J.S. Notes on some local migrants. Ostrich, 1954, 25, 13-18.
- Teplov, V.P., V.N. Karpovich, S.G. Priklonskii, and Ya. V. Sapetin. An experiment in the quantitative estimation of the migration of birds at different geographic points. In: The Geography of Populations of Terrestrial Animals and Methods of Studying Them. Moscow: Acad. Sci., 1959, pp. 164-171.
- Thomson, A.L. The study of the visible migration of birds: an introductory review. Ibis, 1953c, 95, 165-180.
- Thomson, A.L. The British contribution to the study of bird migration. Ibis, 1959, 101, 82-89.
- Tinbergen, L. Field observations of migration and their significance for the problems of navigation. Ardea, 1956, 44, 231-235.
- Tomlinson, R.E., H.M. Wright, and T.S. Haskett. Migrational homing, local movement and mortality of mourning doves in Missouri. Trans N Amer Wildl Conf, 1960, 25, 253-267.
- Tordoff, H.B., and R.M. Mengel. Studies of birds killed in nocturnal migration. Publ Mus Nat Hist Univ Kans, 1956, 10, 1-44.
- Ulfstrand, S. Migration of African kites, Milvus migrans (Bodd.)=M. aegyptius Sharpe and Bouvier, and Wahlberg's eagles, Aquila wahlbergi Sund., at Lake Tanganyika. K Fysiogr Sallskapetets i Lund Forhandl, 1960a, 30, 31-39.
- Ulfstrand, S. Some aspects on the directing and releasing influence of wind conditions on visible bird migration. Proc 12th Int Orn Congr (Helsinki, 1958), 1960b, pp. 730-736.
- Vlengel, D.A. On the temporal pattern of nocturnal migration in thrushes. Auk, 1960, 77, 10-18.
- Wallace, G.J. Notes on North American migrants in Colombia. Auk, 1958, 75, 177-182.
- Watson, I. Migratory flight of honeyeaters. Emu, 1955, 55, 312-313.
- West, G.C. Seasonal variation in the energy balance of the tree sparrow in relation to migration. Auk, 1960, 77, 306-329.

- Williams, C.S., and E.R. Kalbach. Migration and fate of transported juvenile waterfowl. J Wildlife Manag, 1943, 7, 163-169.
- Williamson, K. Migrational drift in Britain in autumn 1951. Scot Nat, 1952, 64, 1-18.
- Williamson, K. Redwing passage in autumn at Fair Isle. Bull Brit Orn Cl, 1953, 73, 18-23.
- Williamson, K. The migration of the Iceland merlin. Brit Birds, 1954b, 47, 434-441.
- Williamson, K. American birds in Scotland in autumn and winter, 1953-54. Scot Nat, 1954c, 66, 13-29.
- Williamson, K. Migrational drift. Acta 11th Int Orn Congr (Basle, 1954), 1955a, pp. 179-186.
- Williamson, K. Migrational drift and the yellow wagtail complex. Brit Birds, 1955b, 48, 382-403.
- Williamson, K. The autumn immigration of the Greenland redpoll (Carduelis flammea rostrata [Coes]) into Scotland. Dansk Orn Foren Tidsskr, 1956, 50, 125-133.
- Williamson, K. Nature of "leading line" behavior. Bird Migration, 1962, 2, 176-182.
- Wodzicki, K., and Stein, P. Migration and dispersal of New Zealand gannets. Emu, 1958, 58, 289-312.
- Wolfson, A. Bird migration and the concept of continental drift. Science, 1948, 9, 23-30.
- Wolfson, A. Role of light and darkness in the regulation of the annual stimulus for spring migration and reproductive cycles. Proc 12th Int Orn Congr (Helsinki, 1958), 1960, pp. 758-789.
- Wolfson, A. Environmental and neuroendocrine regulation of annual gonadal cycles and migratory behavior in birds. Recent Progress in Hormone Research, 1966, 22, 177-244.
- Wolfson, A., and D.P. Winchester. Role of darkness in the photoperiodic responses of migratory birds. Physiol Zool, 1960, 33, 179-189.
- Woodbury, A.M. Animal migration-periodic response theory. Auk, 1941, 58, 463-505.

C. Bats

- Davis, W.H., and H.B. Hitchcock. Biology and migration of the bat, Myotis lucifugas, in New England. J Mammal, 1965, 46, 296-313.
- Griffin, D.R. Migrations of New England bats. Bull Mus Comp Zool Harvard Univ, 1940b, 86, 217-246.
- Guthrie, M.J. Notes on the seasonal movements and habits of some cave bats. J Mammal, 1933, 14, 1-19.
- Heppenstall, C.A. A possible bat migration. J Mammal, 1960, 41(4), 509.
- Oldfield, T. Bats on migration. J Mammal, 1921, 2, 167.
- Saunders, W.E. Bats in migration. J Mammal, 1930, 11, 225.
- Villa, B., and E.L. Cockrum. Migration in the guano bat, Tadarida brasiliensis mexicana (Suassure). J Mammal, 1962, 43, 43-64.

D. Fish

- Allen, G.H. Ocean migration and distribution of fin-marked coho salmon [Oncorhynchus kisutch]. Fish Res Bd Can J, 1966, 23(7), 1043-1061.
- Barannikova, I.A. On the migration impulse in sturgeons. Vop Ikhtiol, 1964, 4(4), 716-722.
- Burkov, V.A. Hydrology of salmon migrations in the spring and fall in the Komandoro-Kamchatka region. Trudy Soveshchaniy Ikhtiol Komissiya Akad Nauk SSSR, 1960, 10, 165-172.
- Clemens, W.A., R.E. Foerster, and A.L. Pritchard. The migration of Pacific salmon in British-Columbia waters. Publ Amer Assoc Advan Sci, 1939, 8, 51-59.
- Kavanchev, E.V. Spring migration of salmon. Trudy Soveshchaniy Ikhtiol Komissiya Akad Nauk SSSR, 1960, 10, 173-174.
- Cooper, R.A. Migration and population estimation of the tautog, Tautoga onitis (Linnaeus), from Rhode Island. Trans Amer Fish Soc, 1966, 95(3), 239-247.
- Fagerlung, U.H.M., J.R. McBride, M. Smith, and N. Tomlinson. Olfactory perception in migrating salmon. III. Stimulants for adult sockeye salmon (Oncorhynchus nerka) in home stream waters. J Fish Res Bd Can, 1963, 20(6), 1457-1463.
- Fields, P.E. Final report on migrant salmon light guiding studies at Columbia River dams. North Pacific Corps of Engineers, Portland, Oregon, 1966.

Fields, P.E., R. Gregory, R. Lichtenheld, R. Snyder, and D. Kenoyer.
Guiding migrant salmon. Res Fish Contr, 1962, 139, 19-22.

Fontaine, M. Physiological mechanisms of catadromic amphibiotic migratory behavior of teleost fish. In: 15th Congress of the Societas Internationalis Limnologiae, Madison, Wis., 20-25 August, 1962.

Gosheva, T.D., and R.R. Fyudr. Some data on the migrations of herring in Dvina Bay of the White Sea. Materialy rybokhozyaistvennogo issledovaniya Severnogo basseina, 1968.

Hasler, A.D. Underwater guidepost for migrating fishes. In: Animal Orientation and Navigation, ed. by R.M. Storm. Corvallis, Ore.: Oregon State University Press, 1967, pp. 1-20.

Hasler, A.D., and Wisby, W.J. Discrimination of stream odors by fishes and relation to parent stream behavior. Amer Natur, 1951, 85, 223-238.

Hartman, W.L., W.R. Heard, and B. Drucker. Migratory behavior of sockeye salmon fry and smolts (Oncorhynchus nerka). J Fish Res Bd Can, 1967, 24(10), 2069-2099.

Hartman, W.L., C.W. Strickland, and D.T. Hoopes. Survival and behavior of sockeye salmon fry migrating into Brooks Lake, Alaska. Trans Amer Fish Soc, 1962, 91(2), 133-139.

Idler, D.R., J.R. McBride, R.E.E. Jonas, and N. Tomlinson. Olfactory perception in migrating salmon. II. Studies on a laboratory bio-assay for homestream water and mammalian repellent. Can J Biochem and Physiol, 1961, 39(10), 1575-1584.

Jones, F.R.H. Fish migration and water currents. Int Comm Northwest Atlantic Fish Spec Publication, 1965, 6, 257-266.

Kazanchev, E.N. Spring migration of the Caspian Sea herring in the water of north Dagestan. In: Problems of Ichthyology. Moscow: 1959, 12, pp. 75-84.

Kokhnénko, S.V.K. The problem of the spawning migration of eels. In: The Biology of the Inland Water of the Baltic Area. Moscow, Leningrad: Akad Nauk SSSR, 1962, pp. 112-115.

Kolesnikov, V.G.O. The effect of oceanologic conditions on the migration path of Norwegian herring. Contributions to the Session of the Academic Council of the Polar Scientific Research Institute of Marine Fisheries and Oceanography on the Observations of 1964. Murmansk: 1966, vol. 6, pp. 130-141.

- Konstantinov, K.G. Water temperature as a factor guiding fishes during their migrations. Int Comm Northwest Atlantic Fish Spec Publication, 1965, 6, 221-224.
- Lebedev, V.D. Migration of Anguilla anguilla L. in the Atlantic. Nauch Dok Vysshei Shkoly Biol Nauki, 1959, 3, 43-53.
- Levanidov, V.Ya. Food of the young autumn chum salmon during migration down the Amur River. Izv Tikhookeanskogo Nauchissled Inst Rybn Khoz, Okeanogr, 1964, 55, 55-64.
- Neave, F. Ocean migration of Pacific salmon. J Fish Res Bd Can, 1964, 21(5), 1227-1244.
- Northcote, T.G. Migratory behavior of juvenile rainbow trout, Salmon gairdneri, in outlet and inlet streams of Loon Lake, British Columbia. J Fish Res Bd Can, 1962, 19(2), 201-270.
- Patten, B.C. The rational decision process in salmon migration. J Cons Cons Perma Int Explor Mer, 1964, 28(3), 410-417.
- Powers, E.B. Chemical factors affecting the migratory movements of Pacific salmon. Amer Ass Advan Sci Publ, 1939, 8, pp. 72-85.
- Powers, E.R., and R.T. Clark. Further evidence on chemical factors affecting the migratory movements of fishes, especially the salmon. Ecology, 1943, 24, 109-113.
- Pravdin, I.F. Methodological problems in ichthyological studies. Methods of studying fish migrations. Tr Karel'sk Fil Akad Nauk SSSR, 1962, 33, 82-89.
- Ragimov, D.B. On the migration of gobies and the possibility of catching them off the western coasts of the central and south Caspian. Hydro-biological and ichthyological studies in the South Caspian and in the inland waters of Azerbaidzhan. Baku: Akad Nauk Azerb SSSR, 1965, pp. 132-144.
- Ryapolova, N.I. On the migration patterns of the river lamprey Lampetra fluviatilis L. in Latvian rivers. Tr Molodykh Uch Vses Nauch-Issled Morskogo Rybn Khoz Okeanogr, 1964, pp. 66-69.
- Tesch, F.W. Behavior of elvers (Anguilla anguilla) during their migration in estuaries of German North Sea rivers. Helgolander Wiss Meeresunters, 1965, 12(3), 404-419.
- Wisby, W.J., and A.D. Hasler. The effect of olfactory occlusion on migrating silver salmon (O. kisutch). J Fish Res Bd Can, 1954, 11, 472-478.

Woodhead, A.D., and P.M.J. Woodhead. Seasonal changes in the physiology of the Barents sea cod, Gadus morhua L., in relation to its environment. Endocrine changes particularly affecting migration and maturation. In: International Commission for the Northwest Atlantic Fisheries Environmental Symposium, Rome, January, 1964.

Zarnecki, S. Return of salmonids to breeding rivers. Kosmos, 1965, 14(3), 285-297.

Zilanov, V.K., and A.I. Klimenkov. A note on the pre-spawning migration of Atlanto-Scandinavian herring. Contributions to Fisheries Research in the Northern Basin. Murmansk, 1966, 7, 35-43.

E. Amphibians and Reptiles

Carr, A., and H. Hirth. The ecology and migrations of sea turtles. 5. Comparative features of isolated green turtle colonies. Amer Mus Novitates, 1962, No. 2091.

Carr, A., H. Hirth, and L. Ogern. The ecology and migrations of sea turtles. 6. The hawksbill turtle in the Caribbean Sea. Amer Mus Novitates, 1966, 2248, 1-29.

Carr, A., and L. Ogren. The ecology and migrations of sea turtles. 3. The green turtle in the Caribbean Sea. Bull Amer Mus Nat Hist, 1960a, 121, 1-48.

Carr, A., and L. Ogren. The ecology and migrations of sea turtles. 4. The green turtle in the Caribbean Sea. Bull Amer Mus Nat Hist, 1960b, 121.

Juszczyk, W. The migration of the aquatic frog Rana esculenta. Bull Acad Pol Sci et Lett, 1951, 1952, 341-369.

Moore, H.J. Some observations on the migration of the toad (Bufo bufo bufo). Brit J Herpet, 1954, 1, 194-224.

Netting, M.G. Hibernation and migration of the spotted turtle, Clemmys guttata (Schneider). Copeia, 1936, 1936, 112.

Noble, G.K., and A.M. Breslau. The senses involved in the migration of young freshwater turtles after hatching. J Comp Psychol, 1938, 25, 175-193.

Twitty, V.C. Migration and speciation in newts. Science, 1959, 30, 1735-1743.

Terrestrial Mammals

Makridin, V.P. The paths and time of spring migration of wild reindeer in the Verkhoyansk and Bulunsk raions of the Yakutian SSR. Zool Zhur, 1963, 42(4), 782-785.

Savinov, E.F. Migrations and daily activity of the Siberian ibex in Kazakhstan. Tr Inst Zool Akad Nauk Kaz SSR, 1967, 23, 197-207.

Yazan, Yu.P. The influence of temperature on the activity of elk during the autumn-winter migration. Zool Zhur, 1961, 40(3), 669-671.

G. Marine Mammals

Dawbin, W.H. The seasonal migratory cycle of humpback whales. In: Whales, Dolphins and Porpoises, ed. by K.S. Morris. Berkeley: Univ. California Press, 1966, pp. 145-170.

Nishiwaki, M. Distribution and migration of the larger cetaceans in the north Pacific as shown by Japanese whaling results. In: Whales, Dolphins and Porpoises, ed. by K.S. Norris. Berkeley: Univ. Calif. Press, 1966, pp. 171-191.

Pike, G.C. Migration and feeding of the gray whale (Eschrichtus gibbosus). J. Fish Res Bd Can, 1962, 19(5), 815-838.

Rice, D.W. Offshore southward migration of gray whales off southern California. J. Mammal, 1965, 46(3), 504-505.

Sergeant, D.E. Migrations of harp seals Pagophilus groenlandicus in the northwest Atlantic. J Fish Res Bd Can, 1965, 22(2), 433-464.

Zenkovich, B.A. On the migration of whales to the northern part of the Pacific Ocean. Bull Pacific Sci Inst of Fisheries and Oceanography, 1937, 10, 3-19.

Mueller, H.C. Homing and distance orientation in bats. J. Mammal, 1966, 47(4), 403-421.

V. Orientation and Navigation

A. General References

Manteufel, B.P., N.P. Naumov, and V.E. Yakobi. Orientation and navigation in the animal world. Bionics, April 20, 1966, 308-315 (N66-24164.)

Storm, R.M. (Ed.) Animal Orientation and Navigation. Corvallis, Ore.: Oregon State University Press, 1967.

B. Birds

Penney, R.L. Some practical aspects of penguin navigation-orientation studies. Bioscience, 1965, 15(4), 268-270.

Penney, R.L., and J.T. Emlen. Distance orientation and navigation in the Adelie penguin. Amer Zool, 1963a, 3(4), 498-499.

C. Amphibians and Reptiles

Carr, A. Adaptive aspects of the scheduled travel of Chelonia. In: Animal Orientation and Navigation, ed. by R.M. Storm. Corvallis, Ore.: Oregon State University Press, 1967, pp. 35-55.

Pinner, E. Orientation and navigation problems of the Caribbean soup turtle (Chelonia mydas) [behavior]. Naturwiss Rundsch, 1967, 20(12), 530-531.

VI. Homing and Orientation

A. Birds

Hamilton, W.J. Initial orientation and homing of inexperienced pintails. Bird-Banding, 1962d, 33, 61-69.

Heyland, J.D. The orientation and homing of upland nesting waterfowl in southwestern Saskatchewan. Ph.D. Thesis, 1965, Univ. Guelph.

Hitchcock, H.B. Homing flights and orientation of pigeons. Auk, 1955, 72, 355-373.

B. Bats

Mueller, H.C. Homing and distance orientation in bats. Z Tierpsychol, 1966, 23(4), 403-421.

C. Fish

Hasler, A.D., R.M. Horrall, W.J. Wisby, and W. Braemer. Sun-orientation and homing in fishes. Limnol Oceanogr, 1958, 3, 353-361.

McCleave, J.D. Homing and orientation of cutthroat trout (Salmo clarki) in Yellowstone Lake with special reference to olfaction and vision. J Fish Res Bd Can, 1967, 24(10), 2011-2044.

D. Amphibians and Reptiles

Emlen, J.T. Homing, ability and orientation in the painted turtle Chrysemys picta marginata. Behavior, 1968, 22(1/2), 58-75.

VII. Homing and Migration

A. Birds

Norderhang, M. Migration, homing instinct and pair formation of little auk (Platus alle) in Svalbard. Fauna (Oslo), 1967, 20(4), 236-244. [Engl. sum.]

B. Bats

Gifford, C.E., and D.R. Griffin. Notes on homing and migratory behavior of bats. Ecology, 1960, 41, 378-381.

VIII. Migration and Orientation

A. Birds

Evans, P.R. Migration and orientation of passerine night migrants in north-east England. J Zool Pro Zool Soc London, 1966b, 150(3), 319-369.

Matthews, G.V.T. Discussion on migration and orientation. Ibis, 1959, 101, 427-428.

Wallraff, H.G., and J. Kiepenheuer. Migracion y orientacion en aves: observaciones en otono en el sur-oeste de Europa. Ardeola, 1962, 8, 19-40.

B. Fish

Groot, C. Migration and orientation in Pacific salmon. In: 16th Int Congr of Zool, 1963, pp. 136-137.

C. Marine Mammals

Norris, K.S. Some observations on the migration and orientation of marine mammals. In: Animal Orientation and Navigation, ed. by R.M. Storm. Corvallis, Ore.: Oregon State University Press, 1967, pp. 101-125.

IX. Home Range, Movements, and Population Dynamics

A. Birds

- Ellis, J.E., and J.B. Lewis. Mobility and annual range of wild turkeys in Missouri. J Wildlife Manage, 1967, 31(3), 568-581.
- Frith, H.J. Breeding and movements of wild duck in inland New South Wales. C S I R O Wildlife Research, 1957, 2, 19-31.
- Godfrey, G.A., and W.H. Marshall. Brood break-up and dispersal of ruffed grouse. J Wildl Manage, 1969, 33(3), 609-620.
- Pinowski, J. Experimental studies on the dispersal of young tree sparrows. Ardea, 1967, 55, 241-248.
- Sladen, W.J.L., and N.A. Ostenso. Penguin tracks far inland in the Antarctic. Auk, 1960, 77, 466-469.
- Smith, W.J. Movements of Michigan herring gulls. Bird-Banding, 1959, 30, 69-104.
- Spaepen, J. De trek van de kleine Gele Kwikstaart, Motacilla flava (L.). Gerfaut, 47, 17-43.
- St Paul, U.v. The night flight of carrier pigeons. J Orn, 1962, 103(4), 337-343.
- Stewart, P.A. Local movements of wood ducks (Aix sponsa). Auk, 1958, 75, 157-168.

B. Bats

- Dwyer, P.D. Population ranges of Miniopterus schreibersii (Chiroptera) in south-eastern Australia. Aust J Zool, 1969, 17(4), 665-686.
- Hooper, J.H.D., and W.M. Hooper. Habits and movements of cave-dwelling bats in Devonshire. Proc Zool Soc London, 1956, 127, 1-26.
- Krzanowski, A. Investigations of flights of Polish bats, mainly Myotis myotis (Borkhausen 1797). Acta Theriologica, 1960, 4(2), 175-183.
- Krzanowski, A. Three long flights by bats. J Mammal, 1964, 45(1), 152.
- Mackiewicz, J., and R.H. Backus. Oceanic records of Lasionycteris noctivagans and Lasiurus borealis. J Mammal, 1956, 37, 442-443.

Murie, O.J., and A. Murie. Travels of Peromyscus. J Mammal, 1931, 12, 200-209.

Topal, G. The movements of bats in Hungary. Annales Historica, Naturales Musei Nationalis Hungarici, 1956, 7, 477-489.

C. Amphibians and Reptiles

Bellis, E.D. A study of movement of American toads in a Minnesota bog. Copeia, 1959, 173-174.

Bellis, E.D. Home range and movements of the wood frog in a northern bog. Ecology, 1965, 46, 90-98.

Chapman, B.M., and R.F. Chapman. A field study of a population of leopard toads (Bufo regularis regularis). J Anim Ecol, 1958, 27, 265-286.

Cragle, F.R. Home range, homing behavior, and migration in turtles. Misc Pub Mus Zool Univ Mich, 1944, 61, 5-34.

Dole, J.W. Summer movements of adult leopard frogs, Rana pipiens Schreber, in northern Michigan. Ecology, 1965, 46, 236-255.

Ferguson, D.E. Movements of Bufo fowleri in residential areas. Herpetologica, 1960, 16, 112-114.

Martof, B.S. Home range and movements of the green frog, Rana clamitans. Ecology, 1953b, 34, 165-174.

Nichols, R.J. Preliminary studies on the movement of toads. Bull Ecol Soc Amer, 1937, 18, 56.

Oldham, R.S. Spring movements in the American road, (Bufo americanus). Can J Zool, 1966, 44, 63-100.

Pimentel, R.A. Inter- and intra-habitat movements of the rough-skinned newt, Taricha torosa granulosa (Skilton). Amer Midl Nat, 1960, 63, 470-496.

Plburn, W.F. Size and movements of a local population of cricket frogs, Acris crepitans. Texas J Sci, 1958, 10, 325-342.

D. Terrestrial Mammals

Ables, E.D. Home-range studies of red foxes (Vulpes vulpes). J Mammal, 1969, 50(1), 108-120.

Bayless, S.R. Winter food habits, range use, and home range of antelope in Montana. J Wildl Manage, 1969, 33(3), 538-551.

Bergstedt, B.O. Home ranges and movements of the rodent species Clethrionomys glareolus (Schreber), Apodemus flavicollis (Melchior) and Apodemus sylvaticus (Linne) in southern Sweden. Oikos, 1966, 17(2), 150-157.

Kjos, C.G., and G.G. Montgomery. Daytime locations and bedsites of white-tailed deer fawns. Trans Ill State Acad Sci, 1969, 62(2), 117-119.

Sanderson, G.C. The study of mammal movements: a review. J Wildlife Manage, 1966, 30(1), 215-235.

E. Marine Mammals

Bartholomew, G.A. Seal and sea lion populations of the California Islands. In: Proceedings of the Symposium on the Biology of the California Islands, Santa Barbara, October, 1965.

Fry, D.H. A winter influx of sea lions from lower California. California Fish and Game, 1939, 25(3), 245-250.

Gilmore, R.M. A census of the California gray whale. US Fish and Wildlife Service Space Sci Rept Fisheries, 342, 36 pp., 1960.

Wyrick, R.F. Observations on the movements of the Pacific gray whale Eschrichtius glaucus (Cope). J Mammal, 1954, 35(4), 596-598.

X. Biotelemetry and Radio Tracking

A. General References

Adams, L. Biotelemetry [bibliography, ecology, electronics]. Bioscience, 1965a, 15(2), 155.

Adams, L. Progress in ecological biotelemetry. Bioscience, 1965b, 15(2), 83-86, and 155.

Adams, L., and S.I. Normura. Biotelemetry in Japan. Bioscience, 1967, 17(9), 645-646.

Adams, R.M., F.L. Fromme, D. Dizon, and G.L. Anstadt. A microwatt VHG telemetry system for implantation in small animals. In: Proceedings

of the 1963 National Telemetering Conference. Albuquerque: Institute of Electrical and Electronics Engineers, 1963.

Adey, W.R. Potential for telemetry in the recording of brain waves from animals and men exposed to the stresses of space flight. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 289-302.

Adolph, R.J., and J.C. Frommer. A transducer for recording the instantaneous respiratory waveforms in animals and man. J Appl Physiol, 1966, 21, 737-740.

Akulichev, I.T., R.M. Boyevskiy, et al. Radioelectronics in space medicine. In: Radioelektronika v Kosmicheskoy Meditsine. Moscow: Izd. Energ., 1964, pp. 3-45. (AD 609-140.)

Anderka, F.W., and M.I. Dyer. A design for a miniature biopotential radio transmitter. J Appl Physiol, 1967, 22(6), 1147-1148.

Bach, L.M.N. Telemetering neurophysiological information from animals. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 321-326.

Baldwin, H.A. Interpretation of telemetered physiological response. Semi-annual Status Report, July 17, 1967.

Bardach, J., G. Johnson, and J. Todd. A new laboratory method for tracking aquatic animals. Med Biol Illus, 1967, 17(2), 108-111.

Bergery, G.E., W.C. Sipple, W.A. Hamilton, and R.D. Squires. A personal FM/FM biotelemetric system. US Nav Air Develop Center Aviat Med Accel Lab Rep, MR6624, 1966, pp. 1-27.

Bergery, G.E., W.C. Sipple, W.A. Hamilton, and R.D. Squires. Personal FM/FM biotelemetry system. Aerosp Med, 1968, 39(5), 488-492.

Caceres, C. (Ed.). Biomedical Telemetry. New York: Academic, 1965. (Classification: For Med Med 1965 Jan 1965, 1967, 4, 583-594.)

Caceres, C.A., and J.K. Cooper. Telemetry in medicine and biology. In: Advances in Biomedical Engineering and Medical Physics, vol. 1. New York, London and Sydney: Interscience Publishers, Wiley, 1968, pp. 279-316.

Chen, A.S. Passive telemetering system feasibility study. M.S. Thesis, Electrical Engineering, University of California, Berkeley, 1963.

Cochran, W.W. Some notes on the design of a directional loop antenna for radio tracking wildlife. A Bioinstrumentation Advisory Council Information Module, Distributed by the American Institute of Biological Science, 1966.

- Cochran, W.W., D.W. Warner, J.R. Tester, and V.B. Kuechle. Automatic radio-tracking system for monitoring animal movements. Bioscience, 1965, 15(2), 98-100.
- Cole, L.C. Radiotelemetering of environmental conditions for ecological field studies. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 202-209.
- Corson, S.A., E. O'L. Corson, B. Pasamanick, and J.M. England. The influence of restraint and isolation of physiologic baselines in conditioned reflex studies; the promise of telemetry. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 311-320.
- Cox, V.C., and R.G. Smith. A concentric bipolar electrode for use in small animals. Percept Mot Skills, 1967, 24(1), 205-206.
- Craighead, F.C. The prospects for using Nimbus B satellite for studying large land animals. In: Some Prospects for Using Communications Satellites in Wild Animal Research. Washington, D.C., Amer. Inst. Biol. Sci., Bioinstrum. Adv. Counc., 1966, p. 4-5.
- Deboo, G.J., and T.B. Fryer. A miniature biopotential telemetry system. Amer J Med Electron, 1965, 4(3), 138-142.
- Delgado, J.M.R. Telemetry and telestimulation of the brain. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 231-250.
- England, S.J.M., and B. Pasamanick. Radiotelemetry of physiological responses in laboratory animal. Science, 1961, 133(3446), 106-107.
- Essler, W.O. Radiotelemetry of heart rate and temperature with subdermally implanted sensors. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 341-352.
- Fedotov, V.A., and E.S. Geller. Biological telemetry. Problems of classification. Izv Akad Nauk SSSR Ser Biol, 1967, 4, 583-594.
- Findley, J.D. Detecting and recording the behavior of animals in a multi-enclosure, programmed environment. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 213-216.
- Fryer, T.B., G.J. Deboo, and C.M. Winget. Miniature long-life temperature telemetry system. J Appl Physiol, 1966, 21, 295-298.
- Fryer, T.B., H. Sandler, and B. Darnow. A multichannel implantable telemetry system. Med Res Eng, 1969, 8(2), 9-15.

- Fuglister, F.C., and A.D. Voorhis. A new method of tracking the Gulf Stream. Limnol Oceanogr, 1965, 10(Suppl), R115-R124.
- Gazenko, O.G., and A.A. Gyurdzhian. Fastening of an animal in a pressurized capsule, fabric apparel and distribution of sensors for the registration of physiological functions. In: Problems of Space Biology. Washington: NASA, 1963, pp. 369-377.
- Geddes, L.A., and H.E. Hoff. Transmission of physiological data by wire. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 329-338.
- Giles, R.H. Jr. (Ed.) Wildlife Management Techniques. Washington, D.C.: The Wildlife Society, 1969.
- Gorman, H.A., and R.B. Gram. Biophysical monitoring of experimental animals. Proc First Ann Rocky Mt Bioeng Symp, 1964, 34-48.
- Griffin, D.R. Radioactive tagging of animals under natural conditions. Ecology, 1952c, 33, 329-335.
- Griffin, D.R. The potential for telemetry in studies of animal orientation. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 25-32.
- Hambrecht, F.T. Multi-channel telemetry systems. Progr Brain Res, 1965, 16, 297-300.
- Hammel, H.T. Infrared emissivities of some Arctic fauna. J Mammal, 1956, 37(3), 375-378.
- Holter, N.J. Remote recording of physiological data. Rocky Mtn Med J, 1949, 46, 749-751.
- Holter, N.J. Some perspective on telemetry in the biological sciences. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 61-64.
- Inglis, J.M., O.D. Sittler, and J.D. Kirby. A fixed station radio tracking system. Southwest Natur, 1968, 13(4), 433-443.
- Jeffries, R.J. The frontiers of telemetry technology. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 65-74.
- Klimenko, A.I. Living radio-electronics. Ref Zh Biol, 1969, No. 5N6K.
- Ko, W.H. Micro-electronic technology and its application to bio-telemetry. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 107-116.

- Ko, W.H., and M.R. Neuman. Implant biotelemetry and microelectronics: report on developments in implant telemetry, associated problems, and the potential of microelectronics. Science, 1967, 156(3773), 351-360.
- Ko, W.H., and W. Thompson. Investigation of implantable multichannel biotelemetry systems. Semiannual Report, March-Sept. 1967.
- Kuck, T.L. An improved battery hookup for radio-telemetry studies. J Wildlife Manage, 1966, 30(4), 858-859.
- Le Munyan, C.D., W. White, E. Nyberg, and J.J. Christian. Design of a miniature radio transmitter for use in animal studies. J Wildlife Manage, 1959, 23, 107-110.
- Levine, S.N. (Ed.) Advances in Biomedical Engineering and Medical Physics, vol. 1. New York, London and Sydney, Aust.: Interscience Publishers, Wiley, 1968.
- Lion, K.S. Development in transducers and sensors for biological events. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 75-82.
- Lord, R.D., and W.W. Cochran. Techniques in radiotracking wild animals. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 149-154.
- Mackay, R. A progress report on radio telemetry from inside the body. Proc Sec Nat Biomed Sci Instr Symp, 1964, 2, 275-292.
- Mackay, R.S. Radio telemetering from within the body. Science, 1961a, 3486, 1196.
- Mackay, R.S. Television cinerentgenography: dose and contrast factors. Amer J Roent Rad Ther and Nuc Med, 1961b, 85, 342.
- Mackay, R.S. The potential for telemetry in biological research in the physiology of animals and man. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 45-58.
- Mackay, R.S. Implanted transmitters and body fluid permeability. IEEE Trans Bio-Med Eng, 1965, BME-12, 198-199.
- Mackay, R.S. Bio-Medical Telemetry. New York: Wiley, 1968.
- Mackay, R.S., and B. Jacobson. Endoradiosonde. Nature, 1957, 179, 1239.
- Mackay, R.S., E. Marg, and R. Oechsli. Automatic tonometer with exact theory: various biological applications. Science, 1960, 131, 1668.

- Marshall, W.H. Development and use of short wave radio transmitters to trace animal movements. Univ of Minn Progress Report, 1960, 27 pages.
- Marshall, W.H., and J.J. Kupa. Development and use of short wave radio transmitters to trace animal movements, August 1960 - February 1962. Univ of Minn Progress Report, 1962, 18 pages.
- Mech, L.D. Telemetry as a technique in the study of predation. J Wildlife Manage, 1967, 31(3), 492-496.
- Murray, R.H., A. Marko, A.T. Kissen, and D.W. McGuire. A new, miniaturized, multichannel, personal radiotelemetry system. J Appl Physiol, 24(4), 588-592.
- Parin, V.V., and R.M. Baevskii. Some problems of modern biological telemetry. Ref Zh Biol, 1964, No. 23N3.
- Parin, V.V., and V.V. Rosenblat. The 2nd symposium on biotelemetry at Sverdlovsk, 9-11 December 1963. Ref Zh Biol, 1964, No. 24N14.
- Patterson, B., and G.R. Hamilton. Repetitive 20 cycle per second biological hydroacoustic signals at Bermuda. In: Marine Bioacoustics, ed. by W.N. Tavolgs. London: Pergamon Press, 1964, pp. 125-145.
- Patton, D.R., R.T. Dickie, E.L. Boeker, and V.E. Scott. A transmitter for tracking wildlife. US Forest Serv Res Note Rm, 1968, 114, 1-4.
- Pipes, E.W. A miniaturized radiotelemetry device for monitoring temperatures. Union Carbide Nuclear Co., Report 31, Dec., 1966. (N67-25385.)
- Pronko, N.H. Biotelemetry: psychology's newest ally. Psychol Rec, 1968, 18(1), 93-100.
- Reynolds, L.W. Utilization of bioelectricity as power supply for implanted electronic devices. Aerosp Med, 1964, 35(2), 115-117.
- Rogallo, V.L., R.S. Jenkins, and G.J. Deboo. A piezoelectric transducer for measuring cardiac and gross motor activity of small organisms. Moffett Field, Calif., Ames Research Center, May 1968.
- Roy, O.Z. Telemetry on a shoe-string. Med Biol Eng, 1966, 4(6), 599-602.
- Schevill, W.E. Suitability of IRLS (Nimbus B) for tracking marine animals. In: Some Prospects for Using Communications Satellites in Wild Animal Research. Washington, D.C.: Amer. Inst. Biol. Sci., Bioinstrum. Adv. Counc., 1966, pp. 11-12.
- Singer, A. Some solutions to the problems of homing. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 125-132.

- Siniff, D.B., and J.R. Tester. Computer analysis of animal-movement data obtained by telemetry. Bioscience, 1965, 15(2), 104-108.
- Sipple, W.C., R.J. Oleynik, and R.D. Squires. Biotelemetry in medical monitoring. Arch Phys Med Rehabil, 1967, 48(9), 451-455.
- Slagle, A.K. Designing systems for the field. Bioscience, 1965, 15(2), 109-112.
- Slater, L.E. (Ed.) Bio-Telemetry. New York: Macmillan, 1963.
- Slater, L.E. Some Prospects for Using Communications Satellites in Wild Animal Research. Washington, D.C.: Amer Inst Biol Sci., Bioinstrum. Adv. Counc., 1966.
- Smith, P.E., Jr. Instrumentation for work physiology studies. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 363-370.
- Starks, W.H., and N.S. Ostroff. Instrumentation for Animal Tracking and Data Acquisition. Springfield, Va.: U.S. Dept. Commerce Clearinghouse for Federal Scientific and Technical Information, 1968.
- Sullivan, G.H., C. Hoefener, and V. Bolie. Electronic systems for biological telemetry. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 83-106.
- Tobach, E. The potential for telemetry in studies of animal social behavior. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 33-44.
- Tolles, W.E. Short range telemetry of ingested or implanted sensors. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 339-340.
- Trenam, R.S. Automatic animal tracking on a limited budget. In: The Collection and Processing of Field Data. A CSIRO symposium. 30 August - 2 September, 1966.
- Unzhin, R.V., V.V. Rozenblat, V.M. Forshtadt, and E.I. Rimskikh. Transistorized system for dynamic biotelemetry. Gig Tr Prof Zabolevaniya, 1965, 9(10), 50-60.
- Warner, D.W. Fundamental problems in the use of telemetry in ecological studies. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 15-24.
- Webb, G.N. The display of physiological data from extended periods of time. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 353-362.

Zigelyan, G.S., E.M. Krishchyan, O.V. Savdalyan, and T.O. Yuzbashyan. A telemetric device for transmitting an electrocardiogram over telephone channels. Ref Zh Biol, 1969, No. 7N481.

Zweizig, J.R.D., R.T. Kado, J. Hanley, and W.R. Adey. The design and use of an FM/AM radiotelemetry system for multichannel recording of biological data. IEEE Trans Bio Med Eng, 1967, BME-14(4), 230-238.

Zworykin, V.K., J.T. Farrar, R.C. Bostrom, F.L. Hatke, and G.J. Deboo. The measurement of internal physiological phenomena using the passive type telemetering capsule. Proc 1961 IRE Int Con, Part 9.

B. Birds

Aagaard, J.S., and A. Wolfson. Transister equipment for continuous recording of oriented migratory behaviour in birds. IRE Trans Bio-Med Electron, 1962, 9, 204-208.

Cochran, W.W., G.G. Montgomery, and R.R. Graber. Migratory flights of Hylocichla thrushes in spring: a telemetry study. Living Bird, 1967, 6, 213-225.

Darlington, A. The use of mobile observers in the study of patterns of migration. Brit Birds, 1951, 44, 152-157.

Dyer, M.I., F.W. Anderka, and A. De Vos. Microclimate telemetry studies of red-winged blackbird (Agelaius phoeniceus) nesting habitat. In: The Collection and Processing of Field Data. New York, London, and Sydney, Aust.: John Wiley and Sons, 1967, pp. 261-271.

Eklund, C.R. Determination of temperatures of incubating eggs of Antarctic birds. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 267-272.

Eliassen, E. Telemetric registering of physiological data in birds in normal flight. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 257-266.

Graber, R.R., and W.W. Cochran. An audio technique for the study of nocturnal migration of birds. Wilson Bull, 1959, 71, 220-226.

Graber, R.R., and W.W. Cochran. Evaluation of an aural record of nocturnal migration. Wilson Bull, 1960, 72, 251-273.

Graber, R.R., and S.L. Wunderle. Telemetric observations of a robin (Turdus migratorius). Auk, 1966, 83(4), 674-677.

Kaskneem, A. Migration of birds and radio engineering. Eesti Loodus 2, 1961, 120-121.

Lord, R.D., F.C. Bellrose, and W.W. Cochran. Radiotelemetry of the respiration of a flying duck. Science, 1962, 137, 39-40.

Michener, M.C., and C. Walcott. Navigation of single homing pigeons: airplane observations by radio tracking. Science, 1966, 154(3747), 410-412.

Michener, M.C., and C. Walcott. Homing of single pigeons: analysis of tracks. J Exp Biol, 1967, 47(1), 99-131.

Newman, J., and G.H. Lowery. The study of the ultrahigh daytime migration with a spotting 'scope'. Proc XIII Int Orn Cong Ithaca, 1962, unpublished paper.

Proud, J.C. Wild turkey studies in New York by radio-telemetry. NY Fish Game J, 1969, 16(1), 46-83.

Schmidt-Koenig, K. The problem of distant tracking in experiments in bird orientation. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963b, pp. 119-124.

Shumakov, M.Ye. The first results of investigations of migrating orientation in sparrows by the round cage method. Bionics, April 20, 1966. (AD 472-480.)

Southern, W.E. Additional observations on winter bald eagle populations: including remarks on biotelemetry techniques and immature plumages. Wilson Bull, 1964, 76, 121-137.

Wilkinson, D.H. Flight recorders. A technique for the study of bird navigation. J Exp Biol, 1950, 27, 192-198.

C. Bats

Williams, T.C., and J.M. Williams. Radio tracking of homing bats. Science, 1967, 155(3768), 1435-1436.

D. Fish

Bass, G.A., and M. Rascovich. A device for the sonic tracking of large fishes. Zoologica, 1965, 50(2), 75-82.

Davis, R.E., P.D. Klinger, and B.W. Agranoff. Automated trained and recording of a light-tracking response in fish [Carassium auratus, Danio malibraicus]. J Exp Anal Behav, 1965, 8(5), 353-355.

Hasler, A.D., E.S. Gardella, R.M. Horrall, and H.F. Henderson. Open-water orientation of white bass, Roccus chrysops, as determined by ultrasonic tracking methods. J Fish Res Bd Can, 1969, 26(8), 2173-2192.

Hasler, A.D., and H.F. Henderson. Instrumentation problems in the study of homing in fish. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 195-202.

Hasler, A., and H.F. Henderson. Tracking migrating fishes [Behavior]. Science, 1964, 146(3642), 426.

Henderson, H.F., A.D. Hasler, and G.C. Chipman. An ultrasonic transmitter for use in studies of movement of fishes. Trans Amer Fish Soc, 1966, 95, 350-356.

Johnson, J.H. Sonic tracking of adult salmon at Bonneville Dam, 1957. Fishery Bull 176, US Fish and Wildlife Service, 1960, 60, 471-485.

Oshima, K., W.E. Hahn, and A. Gorbman. Electroencephalographic olfactory responses in adult salmon to waters traversed in the homing migration. J Fish Res Bd Can, 1969, 26(8), 2123-2133.

Poddubnyi, A.G. Some results of remote observations on the behavior of migrating fishes. Bionika, Nauka: Moscow, 1965, pp. 255-263.

Poddubnyi, A.G., Yu.I. Spektor, and S.M. Kidun. Results of the first experiments of tracking sturgeons carrying electronic tags. Vop Ikhtiol, 1966, 6(4), 725-734.

Protasov, V.R. Electrical discharges and sounds in some so-called "non-electrical" fishes of the Black Sea. Zh Obshch Biol, 1969, 30(5), 858-601.

Trefethen, P.S., J.W. Dudley, and M.R. Smith. Ultrasonic tracer follows, tagged fish. Electronics, 1957, 30, 156-160.

E. Amphibians and Reptiles

Carr, A. Orientation problems in the high seas travel and terrestrial movements of marine turtles. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 179-194.

F. Terrestrial Mammals

Balding, T.A. Radio-tracking a white-tailed deer. Ohio J Sci, 1967, 67(6), 382-384.

- Beal, R.O. Radip transmitter-collars for squirrels. J Wildlife Manage, 1967, 31(2), 373-374.
- Bligh, J., and A.M. Harthoorn. Continuous radio-telemetric records of the deep body temperature of some unrestrained African mammals under near-natural conditions. J Physiol, 1965, 176(1), 145-162.
- Bligh, J., D.L. Ingram, R.D. Keynes, and S.G. Robinson. The deep body temperature of an unrestrained Welsh mountain sheep recorded by a radio-telemetric technique during a 12-month period. J Physiol, 1965, 176(1), 136-144.
- Beannick, L.J. Recording physiological functions from unrestrained dogs. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 303-310.
- Brown, L.E. Field experiments on the movements of Apodemus sylvaticus L. using trapping and tracking techniques. Oecologia, 1969, 2(2), 198-222.
- Buechner, H.K. Prospects for tracking elephants with IRLS (Nimbus B) in Kenya. In: Some Prospects for Using Communications Satellites in Wild Animal Research. Washington, D.C.: Amer Inst Biol Sci, Bioinstrum Adv Counc, 1966, pp. 6-8.
- Cook, R.S., M. White, D.O. Trainer, and W.C. Glazener. Radiotelemetry for fawn mortality studies. Wildlife Dis Ass Bull, 1967, 3(4), 160-165.
- Craighead, F.C. The prospects for using Nimbus B. satellite for studying large land animals. In: Some Prospects for Using Communications Satellites in Wild Animal Research. Washington, D.C.: AIBS/BAC, 1966, pp. 4-5.
- Craighead, F.C., Jr., and J.J. Craighead. Tracking grizzly bears (Ursus arctos horribilis). Bioscience, 1965, 15(2), 88-92.
- Craighead, F.C., J.J. Craighead, and R.S. Davies. Radiotracking of grizzly bears. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 133-148.
- Delgado, J.M.R., and J.A.J. Stolwijk. Telemetering of movement in monkey colonies, 1962 (to be published).
- Dodge, W.E., and M.B. Church. Construction of transmitters on radio-tracing hares and mountain beavers. Northwest Sci, 1965, 39(3), 118-122.
- Dzieciolowski, R. Winter food of the red deer (Cervus elaphus L.) as determined by tracking techniques. Ekol Pol Ser A, 1967, 15(11), 286-305.

- Fischler, H., N. Peled, and S. Yerushalmi. FM/FM multiplex radio-telemetry system for handling biological data [man]. IEEE Trans Biomed Eng, 1967, BME-14(1), 30-39.
- Flood, M.M. Experimenting with monkeys to be stimulated by remote control of electrodes planted chronically in the brain. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 251-254.
- Flyger, V. A proposal for using the IRLS for studying movements and physiology of the polar bear. In: Some Prospects for Using Communications Satellites in Wild Animal Research, addendum. Washington, D.C.: Amer. Inst. Biol. Sci., Bioinstrum. Adv. Counc., 1966, pp. 1-3.
- Gerrard, M. Tagging of small animals with radioisotopes for tracking purposes: a literature review. Int J Appl Radiat Isotop, 1969, 20(9), 671-676.
- Gorman, H.A. Instrumentation of animals for bio-satellite research: surgical implantation of radio transmitters for determining viability in the mouse. J Amer Vet Med Assoc, 1960, 237, 693-697.
- Green, C.D. Biomedical capsules. In: Physiology of Man in Space, ed. by J.H.U. Brown. New York and London: Academic Press, 1963, pp. 257-285.
- Hakata, H., K. Maeda, K. Higuchi, and K. Hirose. Apparatus for measuring the behavior of the mouse by an automatic tracking method. In: Digest of the Seventh International Conference on Medical and Biological Engineering. Stockholm, Swed: Royal Academy of Engineering, 1967.
- Heezen, K.L. Evaluation of radio-tracking by triangulation with special reference to deer movements. J Wildlife Manage, 1967, 31(1), 124-142.
- Jensen, G.D., and G.L. Mullins. A telemetry approach to mother-infant interaction in monkeys. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 225-230.
- Kawai, M., K. Yoshida, S. Ando, and S. Azuma. Some observations on the solitary male among Japanese monkeys. A pilot report for a socio-telemetrical study. Primates, 1968, 9(1/2), 1-12.
- Kurtenbach, A.J., and A.E. Dracy. The design and application of an FM/AM temperature telemetering system for intact, unrestrained ruminants. IEEE Inst Elec Electron Eng Trans Biomed Eng, 1965, BME 12(3/4), 187-190.
- Marshall, W.H. Radiotracking of porcupines and ruffed grouse. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 173-178.

- Marshall, W.H., G.W. Gullion, and R.G. Schwab. Early summer activities of porcupines as determined by radio-positioning techniques. J Wildlife Manage, 1962, 26(1), 75-79.
- Merriam, H.G. Problems in woodchuck population ecology and a plan for telemetric study. Doctoral thesis, Cornell University, 1960.
- Merriam, H.G. Low frequency telemetric monitoring of woodchuck movements. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 155-172.
- Nagasaka, T., S. Ando, T. Takai, and K. Takagi. A radio telemetering system and the changes of ekg and heart rate of the subjects engaging in mountaineering at greater altitudes. Nagoya J Med Sci, 1966, 29(1), 93-103.
- Peterson, A.E. An electrical device to detect physical activity [dogs]. J Appl Physiol, 1968, 25(1), 103-104.
- Rudge, A.J.B. Techniques and apparatus used in mole research. J Zool Hand, 1966, 149, 108-109.
- Shura-bura, B.L., and V.P. Kharlamov. Autoradiography as a method for detecting labeled rodents and their ectoparasites in studying migration. Zool Zhur, 1961, 40(2), 258-263.
- Shura-bura, B.L., R.A. Tararin, and B.K. Mel'nikov. Radioactive labeling of the gray rat for the study of its migration. Zool Zhur, 39(11), 1700-1706.
- Sokolov, V.E., and N.S. Stepanov. Radiotelemetry in animal ecology. Radio-tracking of animals [rabbit, pheasant, deer raccoon, duck]. II. Zool Zhur, 1968, 47(2), 173-186. [Engl. sum.]
- Tester, J.R., and K.L. Heezen. Deer response to a drive census determined by radio tracking. Bioscience, 1965, 15(2), 100-104.
- Turkowski, F.J., and L.D. Mech. Radio-tracking the movements of a young male raccoon. J Minn Acad Sci, 1968, 35(1), 33-37.
- Warman, N.E. A subminiature temperature transmitter for use with rodents. Science in Alaska, 1964, pp. 46-47.
- Watson, N.W., D.L. Franklin, and R.L.V. Citters. Backpack for free-ranging primates. J Appl Physiol, 1968, 24(2), 252-253.
- Wise, D.H. Home range of a wandering shrew, Sorex vagrans, by tracking. J Mammal, 1967, 48(3), 490-492.

G. Marine Mammals

Baldwin, H.A. An experiment for studying whales. In: Some Prospects for Using Communications Satellites in Wild Animal Research. Washington, D.C.: Amer. Inst. Biol. Sci., Bioinstrum. Adv. Counc., 1966, pp. 13-19.

Evans, W.E., and W.W. Sutherland. Potential for telemetry in studies of aquatic animal communication. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 217-224.

Gales, R.S. Pickup analysis, and interpretation of underwater acoustic data. In: Whales, Dolphins, and Porpoises, ed. by K.S. Norris. Berkeley: Univ. California Press, 1966, pp. 435-444.

Schevill, W.E., and W.A. Watkins. Radio-tagging of whales. Woods Hole Oceanographic Institution Technical Report No. 66-M, 1966.

H. Amphibians and Reptiles

Norris, K.S. Preparations for radiotelemetry of the body temperatures of large reptiles. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 283-288.

I. Insects

Dutky, S.R., M.S. Schechter, and W.N. Sullivan. Monitoring electrophysiological and locomotive activity of insects to detect biological rhythms. In: Bio-Telemetry, ed. by L.E. Slater. New York: Macmillan, 1963, pp. 273-282.

XI. Radar: Birds

Adams, D.W.H. Radar observations of bird migration in Cyprus. Ibis, 1962, 104, 134-146.

Bellrose, F.C. Radar studies of waterfowl migration. Trans No Amer Wildl and Nat Res Conf, 1964, 29, 128-143.

Bellrose, F.C. Radar in orientation research. In: Proc XIV Int Orn Congr, 24-30 July, 1966, vol. 14. Oxford, Engl.: Blackwell Scientific Publications, 1967b, pp. 281-309.

Bellrose, F.C., and R.R. Graber. A radar study of the flight directions of nocturnal migrants. In: Proc Inter Orn Congr, vol. 13, 1963, pp. 362-389.

- Bonham, L.L., and L.V. Blake. Radar echoes from birds and insects. Sci Mon, 1956, 82, 204-209.
- Buss, I.O. Bird detection by radar. Auk, 1946, 63(3), 315-318.
- Casement, M.B. Migration across the Mediterranean observed by radar. Ibis, 1966, 108(4), 461-491.
- Drury, W.H., and J.A. Keith. Radar studies of songbird migration in coastal New England. Ibis, 1962, 104, 449-489.
- Drury, W.H., and I.C.T. Nisbet. Radar studies of orientation of songbird migrants in southeastern New England. Bird-Banding, 1964, 35, 69-119.
- Dyer, M.I. Photo-electric cell technique for analyzing radar film. J Wildl Manage, 1967, 31, 484-491.
- Eastwood, E. Radar observations of bird migrations in the southeast of England. Proc Inter Orn Congr, 1963, 13, 390-395.
- Eastwood, E. Radar Ornithology. London: Methuen, 1967.
- Eastwood, E., G.A. Isted, and G.C. Rider. Radar 'ring angels' and the roosting movements of starlings. Nature, 1960, 186, 112-114.
- Eastwood, E., and G.C. Rider. Some radar measurements of the altitude of bird flight. Brit Birds, 1965, 58, 393-425.
- Eastwood, E., and G.C. Rider. Grouping of nocturnal migrants. Radar observation of bird migration. Nature, 1966, 211(5054), 1143-1146.
- Edwards, J., and E.W. Houghton. Radar echoing area polar diagrams of birds. Nature, 1959, 184, 1059.
- Evans, P.R. An approach to the analysis of visible migration and a comparison with radar observations. Ardea, 1966a, 54, 14-44.
- Gehring, W. Radar- und Feldbeobachtungen uber den Verlauf des Vogelzuges im Schweizerischen Mittelland: der Tagzug im Herbst (1957-1961). Orn Beob, 1963, 60, 35-68.
- Gehring, W. Radarbeobachtungen uber den Vogelzug am Col de Bretolet in den Walliser Alpen. Orn Beob, 1967a, 64, 133-145.
- Gehring, W. Analyse der Radarechos von Vögeln und Insekten. Orn Beob, 1967b, 64, 145-151.
- Graber, R.R., and S.S. Hassler. The effectiveness of aircraft-type (APS) radar in detecting birds. Wilson Bull, 1962, 74, 367-380.

- Harper, W.G. Detection of bird migration by centimetric radar-a cause of radar 'angels'. Proc Roy Soc, 1958, B, 149, 484-502.
- Harper, W.G. Roosting movements of birds and migration departures from roosts as seen by radar. Ibis, 1959, 101, 201-208.
- Hassler, S.S., R.R. Graber, and R.F. Bellrose. Fall migration and weather: a radar study. Wilson Bull, 1963, 17(1), 56-77.
- Houghton, E.W., and A.G. Laird. A preliminary investigation into the use of radar as a deterrent of bird strikes on aircraft. RRE Memorandum, 1967, #2353.
- Knorr, O.A. The effect of radar on birds. Wilson Bull, 1954, 66, 264.
- Lack, D. Migrational drift of birds plotted by radar. Nature, 1958b, 183, 221-223.
- Lack, D. Watching migration by radar. Brit Birds, 1959a, 52, 258-267.
- Lack, D. Migration across the North Sea studied by radar. Part I. Survey through the year. Ibis, 1959b, 101, 209-234.
- Lack, D. Migration across the North Sea studied by radar. Part 2. The spring departure 1956-59. Ibis, 1960c, 102, 26-57.
- Lack, D. Radar evidence on migration orientation. Brit Birds, 1962, 55, 139-158.
- Lack, D. Migration across the southern North Sea studied by radar. Part 5. Movements in August, winter and spring, and conclusion. Ibis, 1963a, 105(4), 461-492.
- Lack, D., and E. Eastwood. Radar films of migration over eastern England. Brit Birds, 1962, 55(9), 338-414.
- Lack, D., and G.C. Varley. Detection of birds by radar. Nature, 1945, 156, 446.
- Lee, S.L.B. Migration in the outer Hebrides studied by radar. Ibis, 1963, 195(4), 493-515.
- Mascher, J.W., B.O. Stolt, and L. Wallin. Migration in spring recorded by radar and field observations in Sweden. Ibis, 1962, 104, 205-215.
- Nisbet, I.C.T. Measurements with radar of the height of nocturnal migration over Cape Cod, Massachusetts. Bird-Banding, 1963a, 34, 57-67.

Nisbet, I.C.T. Quantitative study of migration with 23-centimeter radar. Ibis, 1963b, 105(4), 436-460.

Nisbet, I.C.T., and W.H. Drury. Orientation of spring migrants studied by radar. Bird-Banding, 1967, 38, 173-186.

Papi, F., and L. Pardi. The initial orientation of homing pigeons observed by radar. Monit Zool Ital, 1968a, 2(2), 87-93.

Poor, H.H. Birds and radar. Auk, 1946, 63, 631.

Schaefer, G.W. Bird recognition by radar. Inst Biol Symp, 1968. (In press.)

Sutter, E. Radar als Hilfsmittel der Vogelzugforschung. Orn Beob, 1957a, 54, 70-96.

Sutter, E. Radar-Beobachtungen uber den Verlauf des nachtlichen Vogelzuges. Rev Suisse Zool, 1957b, 64, 294-303.

Tedd, J.G., and D. Lack. The detection of bird migration by high-power radar. Proc Roy Soc, 1958, B, 149, 503-510.

XII. Banding, Tagging, Ringing, and Marking

A. Birds

Austin, O.L., Jr. Notes on banding birds in Antarctica, and on the Adelie penguin colonies of the Ross Sea sector. Bird-Banding, 1957, 28, 1-26.

Carrick, R. The contribution of banding to Australian bird ecology. In: Biogeography and Ecology in Australia. Monographiae Biologicae, 1959, 8, 369-392.

Dementiev, G.P. Seasonal distributions and migrations of birds as shown by banding results in USSR. Trudy Byuro Kolts, 1947, 1, 1-99. (In Russian.)

Dementiev, G.P. Seasonal distribution and migrations of birds as shown by banding results in USSR. Trudy Byuro Kolts, 1948, 2, 1-269. (In Russian).

Dementiev, G.P. Migrations of kittiwakes (Rissa tridactyla L.) as shown by banding results in USSR. Trudy Byuro Kolts, 1955, 8, 22-32. (In Russian.)

- Dementiev, G.R., and V.N. Wuczeticz. Seasonal distribution and migrations of gulls as shown by banding results in USSR. Trudy Byuro Kolts, 1947, 1, 1-31. (In Russian.)
- Donker, J.K. Migration and distribution of the pigeon, Anas penelope L. in Europe, based on ringing results. Ardea, 1959, 47, 1-27.
- Downes, M.C., A.M. Gwynn, and P.F. Howard. Banding of giant petrels at Heart and Macquarie Islands. Emu, 1954, 54, 257-262.
- Dunnet, G.M. Arctic tern, Sterna macrura Naum, banded in Russia and recovered in Western Australia. C S I R O Wildlife Research, 1956, 1, 134.
- Gullion, G.W., R.L. Eng, and J.J. Kupa. Three methods for individually marking ruffed grouse. J Wildl Mgt, 1962, 26(4), 404-407.
- Hanson, W.C. Banding studies of gulls and geese on the Hanford reservation. US Atomic Energy Comm Res and Develop Rept, 1961, HW-69500, 166-172.
- Hickey, J.J. Autumnal migration of ducks banded in eastern Wisconsin. Trans Wis Acad Sci Arts Lett, 1956, 45, 59-76.
- Hitchcock, W.B., and R. Carrick. First report of banded birds migrating between Australia and other parts of the world. C S I R O Wildlife Research, 1958, 3, 54-70.
- Isakov, I.A. Seasonal migrations of the common heron (Ardea cinerea L.) as shown by banding results in USSR. Trudy Byuro Kolts, 1957, 9, 46-85. (In Russian.)
- McIlhenny, E.A. Twenty-two years of banding migratory wildfowl at Avery Island, Louisiana. Auk, 1934, 51, 328-337.
- Riabov, V.F. Bird banding in USSR. Trudy Byuro Kolts, 1955, 8, 5-10. (In Russian.)
- Riabov, V.F., and T.P. Schevareva. Results of banding of rooks. Trudy Byuro Kolts, 1955, 8, 104-122. (In Russian.)
- Richdale, L.E. Banding and marking penguins. Bird-Banding, 1951, 22, 47-54.
- Rydzewski, W. A historical review of bird marking. Dansk orn Foren Tidsskr, 1951, 45, 61-95.
- Shevareva, T.P. Summary of bird banding for the years 1925-54. Trudy Byuro Kolts, 1957, 9, 5-45. (In Russian.)

Semenov, S.M., and B.V. Sabinevskii. Seasonal distribution and migrations of the slender-billed gull (Larus genei Br.) as shown by the banding results and observations. Trudy Byuro Kolts, 1957, 9, 86-132. (In Russian.)

Serventy, D.L. The banding program of Puffinus tenuirostris (Temminck). I. First report. C S I R O Wildlife Research, 1957, 2, 51-59.

Sladen, W.J.L. Notes on methods of marking penguins. Ibis, 1952, 94, 541-543.

Sladen, W.J.L., and W.L.N. Tickell. Antarctic bird-banding by the Falkland Islands dependencies survey, 1945-57. Bird-Banding, 1958, 29, 1-26.

Thomson, A.L. The migrations of British auks (Alcidae) as shown by the results of marking. Brit Birds, 1953a, 46, 3-15.

Thomson, A.L. The migration of British warblers (Sylviidae) as shown by the results of ringing. Brit Birds, 1953b, 46, 441-450.

Thomson, A.L. The migrations of British chats (Oenanthe, Saxicola, Phoenicurus) as shown by the results of ringing. Brit Birds, 1956, 49, 63-73.

Thomson, A.L. The migrations of British hawks (Accipitridae) as shown by ringing results. Brit Birds, 1958a, 51, 85-93.

Thomson, A.L. The migrations of British falcons (Falconidae) as shown by ringing results. Brit Birds, 1958b, 51, 179-188.

Treus, V.D. Seasonal distribution and migrations of shovelers (Anas clypeata L.) as shown by the banding results. Trudy Byuro Kolts, 1957a, 9, 187-207. (In Russian.)

Treus, V.D. Seasonal distribution and migrations of the gadwall (Anas strepera L.) as shown by the banding results. Trudy Byuro Kolts, 1957b, 9, 162-186. (In Russian.)

B. Bats

Aellen, V. The banding of bats in the Bretolet pass, Valais canton, Switzerland. Arch Sci (Geneva), 1961, 14(3), 365-392.

Allen, A.A. Banding bats. J Mammal, 1921, 2, 53-57.

Bels, L. Fifteen years of bat banding in the Netherlands. Publicaties van het Natuurhistorisch genootschap in Limburg (Maastricht), 1952, 5, 1-99.

- Griffin, D.R. Bat banding. J Mammal, 1936, 17, 235-239.
- Griffin, D.R. Travels of banded cave bats. J Mammal, 1945, 26(1), 15-23.
- Hanak, V., J. Gaisler, and J. Figala. Results of bat-banding in Czechoslovakia 1948-1960. Acta Univ Carolinal Biologica, 1962, 9-87.
- Mohr, C.E. A survey of bat banding in North American, 1932-1951. The Amer Cover Bull, no. 14, National Speleological Society, Wash., D.C., 1952, 3-13.
- Punt, A., and J. van Nieuwenhoven. The use of radioactive bands in tracing hibernating bats. Experientia, 1957, 13, 51-54.
- Trapido, H., and P.E. Crowe. The wing banding method in the study of the travels of bats. J Mammal, 1946, 27, 224-226.

C. Fish

- Aleksandrova, T.N., and L.A. Kuderskii. Some results of zander tagging in Lake Onega. In: Rybnoe khozyaistvo Karelii (Petrosavodsk), 1964, 8, 149-153.
- Armstrong, R.H., and R.F. Blackett. Use and evaluation of dart tags to study the migration habits of dolly varden, Salvelinus malma (Walbaum). Trans Amer Fish Soc, 1966, 95(3), 320-322.
- Bergeron, J., and L. Tremblay. Movements of adult salmon (Salmo salar) tagged in the Gaspé Peninsula from 1955-1957. Trav Pecheries Quebec, 1964, 3, 101-116.
- Butcher, A., A. Dunbavin, and J.K. Ling. Bream tagging experiments in east Gippsland during April and May 1944. Victorian Nat, 1962, 78(9), 256-264.
- Kondo, H., Y. Hirano, N. Nakayama, and M. Miyake. Offshore distribution and migration of Pacific salmon (genus Oncorhynchus) based on tagging studies 1958-1961. Int N Pacific Fish Comm, 1965, 17, 1-213.
- Marti, Yu.Yu. Role of the tagging of fish in ichthyological research. In: Animal Migrations. Moscow: Akad. Nauk SSSR, 1959, 1, 18-26.
- Postolakii, A.I. Results of cod tagging off Labrador and north Newfoundland Bank (1960-1964). Contributions to the Session of the Academic Council of the Polar Scientific Research Institute of Marine Fisheries and Oceanography on the Observations of 1964 (Murmansk), 1966, 6, 80-90.

Priegel, G.R. The movement, rate of exploitation and homing behavior of walleyes in Lake Winnebago and connecting waters, Wisconsin, as determined by tagging. Trans Wis Acad, 1967, 1968(56), 207-223.

Protasov, A.A. First results of tagging the young of the Kura River salmon, bred in the Chaikenskii fish hatchery. Rybn Khoz, 1959, 11, 13-15.

D. Amphibians and Reptiles

Breder, C.M., R.B. Breder, and A.C. Redmond. Frog-tagging: a method of studying anuran life habits. Zoologica, 1927, 9, 201-209.

E. Terrestrial Mammals

Craighead, F.C., et al. Trapping, immobilizing and color-marking grizzly bears. Trans 25th NA Wildl Conf, 1960, pp. 347-363.

Miller, D.R. Results of tagging caribou at Little Duck Lake, Manitoba. J Wildlife Manage, 1967, 31(1), 150-159.

Rashek, V.L. Antelope tagging in the Barsa-Kel'mes Reserve. Migrations of Birds and Mammals. Moscow: Nauka, 1965, pp. 153-159.

F. Marine Mammals

Scheffer, V.B. Experiments in the marking of seals and sea lions. Wildlife, 1950, 4, 1-33.

XIII. Biological Clocks

Batschelet, E. Statistical methods for the analysis of problems in animal orientation and certain biological rhythms. AIBS monograph. (AD-630-708.)

Biological Clocks. Cold Spring Harbor Symposium on Quantitative Biology. Vol. XXV. Cold Spring Harbor, N.Y.: Long Island Biological Association, 1961.

Hoffmann, K. Clock-mechanisms in celestial orientation of animals. In: Circadian Clocks, ed. by J. Aschoff. Amsterdam: North-Holland Publishing Co., 1965.

Schmidt-Koenig, K. Experimentelle Einflussnahme auf die 24-Stunden-periodik bei Brieftauben und deren Auswirkungen unter besonderer Berücksichtigung des Heimfindevermögens. Z Tierpsychol, 1958, 15, 301-311.

XIV. Miscellaneous References

- Buckley, J.L. The Pacific walrus: a review of current knowledge and suggested management needs largely from reports by Karl W. Kenyon and others. US Fish and Wildlife Service Spec Sci Rept Wildlife, 1958, 41, 1-29.
- Cooke, M.T. Flight speed of birds. USDA Circ 428, 14 pp., 1937.
- Crawford, B.H. Perception underground: review of physical aspects and measurements. J Zool Hand, 1966, 149, 102-106.
- Droscher, V.B. The Mysterious Senses of Animals. New York: Dutton, 1965.
- Eastwood, E., and G.C. Rider. The influence of radio waves upon birds. Brit Birds, 1964, 57, 445-458.
- Ehrenfeld, D.W., and A. Koch. Visual accomodation in the green turtle. Science, 1967, 155, 827-828.
- El'Darov, A.L., and Iu.A. Kholodov. The effect of constant magnetic field upon the motive activity of birds. Zhurnal Obshchci Biologii, 1964, 25, 224-229.
- Forster, G.H. Thermal air currents and their use in bird flight. Brit Birds, 1955, 48, 241-253.
- Frisch, K. von. Die Bedeutung des Geruchsinnes im Leben der Fische. Naturwissenschaften, 1941, 29, 321-333.
- Griffin, D.R. Listening in the Dark. New Haven: Yale University Press, 1958.
- Griffin, D.R., J.J. McCue, and A.D. Grinnell. The resistance of bats to jamming. J Exp Zool, 1963, 152, 229-250.
- Henning, H. Optische versuche an Vogeln und Schildkroton uber die bedeutung der raten olkugeln im auge. Pflug Arch Ges Physiol, 1920, 178, 91-123.
- Hinde, R.A. Animal Behaviour. New York: McGraw-Hill, 1966.
- Kramer, G. Experiments on the perception of ultra-short waves by birds. Vogelwarte, 1951b, 16(2), 55-59.
- LeFebvre, E.A., R.C., Birkebak, and F.D. Dorman. A flight-time integrator for birds. Auk, 1967, 84, 124-128.

- Mansfield, A.W. The biology of the Atlantic walrus, Odobenus rosmarus rosmarus (Linnaeus), in the eastern Canadian arctic. Report No. 653 in Manuscript Report Series (Biol.). Fis Res Bd Ca, 1958.
- Marshall, W.H. Ruffed grouse behavior. Bioscience, 1965, 15(2), 92-94.
- Mrosovsky, N., and A. Carr. Preference for light of short wavelengths in hatchling green sea turtles (Chelonia mydas), tested on their natural nesting beaches. Behaviour, 1967, 38, 217-231.
- Neave, F., J.I. Manzer, H. Godfrey, and R.J. Le Bruaseur. High-seas salmon fishing by Canadian vessels in 1962. Fish Res Bd Ca Rept. No. 563, (Mimeo), 1962.
- Nisbet, I.C.T. Atmospheric turbulence and bird flight. Brit Birds, 1955, 48, 557-559.
- Nisbet, I.C.T. Calculation of flight directions of birds observed crossing the face of the moon. Wilson Bull, 1959, 71, 237-243.
- Noble, G.K. The Biology of the Amphibia. New York: McGraw-Hill, 1931.
- Norris, K.S. (Ed.) Whales, Dolphins, and Propoises. Berkeley: Univ Calif Press, 1966.
- Scott, J.P. Animal Behavior. Chicago: University of Chicago Press, 1958.
- Serventy, D.L. Recent Studies on the Tasmanian mutton-bird. Aust Mus Mag, 1958, 12, 327-332.
- Tanner, J.A. Effect of microwave radiations on birds. Nature, 1966, 210, 636.
- Tavolga, W.N. Review of marine bioacoustics, state of the art: 1964. US Naval Trng Device Center Tech Rept 1712-1, pp. 50-62. 1965.
- Thorpe, W.H. Comparative psychology. Ann Rev Psychol, 1961, 12, 27-50.
- Thorpe, W.H. Learning and Instinct in Animals. Cambridge, Mass: Harvard University Press, 1963.
- Twente, J.W., Jr. Some aspects of habitat selection and other behavior of cavern-dwelling bats. Ecology, 1955, 36(4), 706-732.
- Webster, F.A. Mobility without vision by living creatures other than man (with special reference to insectivorous bats). In: Proc Mobility Res Conf, ed. by J.W. Linsner. New York: American Foundation for the Blind, 1962, pp. 117-120.

Webster, F.A. Active energy radiating systems: the bat and ultrasonic principles II; acoustical control of airborne interceptions by bats. In: Proc Int Cong Tech and Blindness, vol. I. New York: American Foundation for the Blind, 1963, pp. 49-135.

Welty, J.C. The Life of Birds. Philadelphia: Saunders, 1962.

Williamson, K. 'Northern chiffchaffs' and their area of origin. Brit Birds, 1954a, 47, 49-58.

Williamson, K. A synoptic study of the 1953 crossbill irruption. Scot Nat, 1954d, 66, 155-169.